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AUTHOR Powell, Barbara Schieffelin
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ABSTRACT

Intensive education is an alternative educational approach in which students study one or two subjects a day for a concentrated number of weeks. This report considers whether intensive study is a valid alternative to the traditional class schedule and discusses the strengths, values, and problems of intensive education. Data sources for the report include 1) a selective review of the history and literature of intensive education; 2) interviews with teachers, administrators, and students; 3) site visits to nine intensive education programs; 4) observation of 12 intensive education classes; and 5) a survey of administrators of 34 secondary school intensive education programs. Section 1 presents a historical review of different studies and approaches involving time as a dimension of learning. Section 2 discusses examples of various intensive education programs. Section 3 examines the effects of intensive education on student learning, teacher roles and methods, and student-teacher relationships. Section 4 discusses the implementation of intensive education programs. The appendix describes 20 existing programs that incorporate some form of intensive study at the secondary level. (Author/JG)

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INTENSIVE EDUCATION
The Impact of Time on Learning

Barbara Schieffelin Powell

EA 009 894

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Foreword

Despite the curricular and pedagogical reform of the last 25 years, one of the most significant features of formal education in America has remained virtually untouched: the organization of learning into four or five courses taken for a number of minutes each day over an extended period of months. Concurrent education, as we call this pattern, seems to be a built-in inevitability of secondary school instruction.

Only rarely has time been viewed as a central dimension of learning and significant alternatives to concurrent education been proposed. One such alternative is intensive education – an innovation in which students study one or two subjects throughout the day, for a concentrated number of weeks.

The scant research literature on intensive learning is divided into basically two categories: descriptive accounts by an administrator or teacher in an intensive program at a particular institution; and experimental studies, usually comparative investigations of intensive and concurrent programs within one institution.

This report explores "the state of the art" of intensive education. It attempts to determine whether intensive study is a valid alternative to the concurrent schedule, and to identify the strengths, values, and problems of its practice.

The sources of data – both a literature review and field data – include:

- a selective review of the history and literature of intensive education
- tape-recorded interviews with 23 teachers, 47 students, and 11 administrators
- site visits to nine intensive education programs (one college and eight secondary schools)
- observation of 12 classes, including algebra, art, astronomy, chemistry, child psychology, ecology, English, French, geometry, philosophy, and visual studies.
- a questionnaire survey of administrators of 34 intensive education programs at the secondary school level.

The report is intended for anyone involved with education – students, teachers, administrators, school board members, trustees, parents – who is interested in the potential of intensive study as an educational innovation.

I came to the study of intensive education via a circuitous route. After teaching junior high and high school English and History (concurrently), and developing a cross-age teaching program, I helped design a teacher education program for a curriculum in which high school students study child development and work with young children. In observing the preschool and elementary classes, it struck me that younger children (in most schools) had the *time* to get involved in a learning activity, pursue interests, explore tangents, and make (and learn from) mistakes.

Under the concurrent schedule, older students often do not have the same time and opportunities which seem so basic to learning at any age. It seemed to me that intensive education was worth exploring as a potential way to deepen and personalize teaching and learning at the secondary level.

The report is divided into four sections and an appendix:

I. Historical Background: Time as a Dimension of Learning

II. Variety of Intensive Education Programs

III. Three Critical Issues: Student Learning, Teacher Role, and Human Relationships

IV. Implementation Issues

The Appendix describes existing programs which incorporate some form of intensive study at the secondary level.

Barbara S. Powell

Historical Background: Time as a Dimension of Learning

The Unchallenged Reign of the Concurrent Schedule

It is an epistemological mystery why traditional education has so often emphasized extensiveness and coverage over intensiveness and depth. – Bruner, 1965

Concurrent education – the notion of taking several courses during the day – is embedded in American secondary education. For a long while no one challenged it, and no one felt the need to justify it. For the most part, concurrent classes even today are seen as the only self-evident way of scheduling instruction. Concurrent education grew up partly because of early limitations on teaching methods: In the days when copying long passages, recitation, and teacher lecture were the dominant teaching strategies, frequent change of subject every hour seemed the most reasonable way to proceed.

In 1893 the NEA's Committee of Ten reported on which subjects should be taught in high school, and for how long. Its framework of thought was periods-per-week and assumed concurrent education. They did not question whether taking four or five courses for 50 minutes each was the only or best way to learn. The only deviation was a parenthetical suggestion by President Eliot of Harvard, who chaired the group:

> A portion of Saturday morning should be regularly used for laboratory work in the scientific subjects. Laboratory work requires more consecutive time than the ordinary period of recitation affords; so that an hour and a half is about the shortest advantageous period for a laboratory exercise.

In 1909, the Carnegie Foundation for the Advancement of Teaching recommended the universal establishment of the "standard unit" of high school credit, which has come to be called the Carnegie Unit. A course which meets five periods weekly throughout the school year equalled a Carnegie Unit. Fourteen such units made up the four-year secondary course which allowed entrance to college.

The unquestioned and virtually complete adoption of the Carnegie Unit by America's secondary schools was due in part to the need for some uniformity across high schools, and in part to the strong control that college admissions requirements exerted over secondary schools. The Carnegie Foundation made their donation to college faculty retirement funds contingent upon the college accepting only those students who had completed the 14 units (or four years) of high school.

Thus the Carnegie Unit further entrenched the concurrent pattern of school learning. The effort to standardize high school curriculum and to adopt a uniform system of accreditation unwittingly contributed to the unquestioned acceptance of the system of teaching several different subjects broken up into 45-minute segments.

By 1934 Stewart could write:

> In spite of the lack of a scientific basis, this method of organization, which calls for the study by each pupil of four or five subjects daily for forty or forty-five minutes each, has not been seriously challenged on the high school level.

Three decades later Martin Mayer found it remarkable that America was the only country which apportioned the same amount of time to every subject.

> Alone among the world's schools the American high school builds its curriculum on prefabricated identical blocks called "Carnegie Units." By this system, every "course" meets the same number of hours every week and yields one "credit point," whatever the subject studied. (Mayer, 1961)

The Carnegie Unit did not invent the practice of taking several subjects for short periods of time, but it guaranteed that concurrent education, which had been the most prevalent, would become the exclusive way of scheduling instruction in American secondary schools. Although the Carnegie Foundation Board felt that the unit could be made quite flexible – and it was instrumental in fostering the number and diversity of electives – the unit soon exemplified a rigidity and formalism which made curriculum integration and experimentation increasingly unlikely.

Educational research during the first part of the 20th century also took concurrent scheduling for granted. Throughout the twenties and thirties the two major research thrusts involving time were studies on the optimal length of a class period and on massed versus distributive practice. The period-length studies posed such questions as whether a 45-minute period was better than a 55-minute period. The massed versus distributive practice studies tested how well people could remember nonsense syllables, depending on whether they learned them all at one sitting or distributed over shorter periods of time.

These studies were part of the whole attempt to discover "laws of learning" in the laboratory, which could then be taught to teachers, who in turn would translate them into classroom practice. The result of this particular research was that people realized there was a limit to the amount of drill and memorization children could do at a sitting. This research was used to support the shorter class periods, with rapid change from subject to subject.

Early Experiments in Intensive Study

> The intimate, informal cooperation of students and professor has been most stimulating – in fact –we have been practicing the only correct theory of education; namely, that teachers who teach and students who want to learn are about all that a school needs. . . . Too much cannot be said of this system of concentrating vigorously on one course for six weeks. (Brown, 1940)

Despite the all-pervasiveness of the concurrent schedule, isolated experiments in intensive education started in the 19th century. The intensive study programs combined a flexibility of scheduling and emphasis on curriculum variety with concentration on one or two subjects at a time for a period of weeks.

Shortly after the Civil War, in 1868, Scio College in Ohio adopted a One-Study Plan in which students pursued one subject at a time, going on to another when faculty felt they had mastered the first one. Although its college catalog (1869) reported "most encouraging results," the one-study system was dropped in 1877. The reason seemed to be an uneasiness with being untraditional – and Scio went under the wing of the Methodist Episcopal Church.

That same year Williamston Female College in South Carolina adopted a schedule of seven blocks of 27 school days each with the whole school – faculty and students – concentrating on the *same* course at a time. The plan was followed for more than 30 years at both the secondary and college levels, and was credited with increasing the attention of students as well as their retention of material.

Some of the various progressive reforms at the secondary level recognized intensive study. Progressive values lent themselves to a less fragmented pattern of instruction. A number of independent secondary schools were created to test these values and practices, and a limited number of existing private and public schools adopted some intensive features such as interdisciplinary courses and working on one project at a time. John and Evelyn Dewey describe schools in which all students worked intensively on one project – a school play – applying skills and knowledge from several different disciplines to the task.

Much of the reform during the twenties and thirties concerned itself more with approaches to teaching than with course content. Several approaches modified the concurrent schedule. A CORE Plan at Winnetka High School (Illinois) incorporated individual pacing with integrated curriculum in long blocks of study around common themes, or units, combining English, Social Studies, and other subjects. While this plan modified the time factor in schools, it was not explicitly intensive in nature.

The Dalton Plan, on the other hand, incorporated individualized learning and interdisciplinary teaching into varieties of short-term, intensive learning projects. The Dalton Plan, started by Helen Parkhurst in the public schools of Dalton, Massachusetts, abandoned a fixed schedule of classes. Instead, students worked together all morning on one subject or "job" for four weeks. In the afternoon they had art, physical educa-

tion, industrial arts, and music. The plan incorporated both individualization and cooperative planning by teachers and pupils. By 1931 the Dalton Plan had spread intensive learning to about 150 schools (Wrightstone, 1936).

Other progressive schools adopted some form of the integrated curricular unit, or project method, but the majority of high schools had (and still have) a schedule in which students went to four to seven different teachers a day, each specializing in a subject, and each knowing little or nothing of what the others were doing. (Wrightstone, 1936).

Hiram Study Plan

Hiram College of Ohio was perhaps the first college in 20th century America to focus on the time factor in creating an innovative program for all its students. In 1931 a reduction in student registration and tuition, due to the rise of state colleges and the Depression, produced a need for change at Hiram. As Hiram's new president, Kenneth Brown, and faculty were considering these problems, articles were beginning to appear about the irrelevance and irrationality of the organization of higher education in the United States. Two John Hopkins scholars suggested that the teaching or study of one subject at a time produced better student concentration and higher achievement than studying several courses at once. An article in the *Saturday Evening Post* reported on student and faculty alienation on campuses where dozens of electives competed with a growing number of requirements to produce a hodgepodge of concurrent courses that were confusing, exhausting, and superficial.

Hiram experimented with intensive study one summer, evaluated the results, and finally adopted the "Hiram Study Plan" for the whole college. The school year was divided into four quarters of nine weeks each, which was later changed to five terms of seven weeks each. An hour each morning was reserved for "running courses" in such subjects as foreign languages, since the language department did not think intensive study was appropriate to their field. During the rest of the day (9:30–4:30) students and faculty concentrated on one intensive course.

The story of Hiram's experience, entitled *A Campus Decade*, written by the President, touches on most of the critical issues which emerge in intensive programs:

- the origin of the program by administrative decision and faculty input
- the overwhelming enthusiasm of faculty and students for the program (89 percent favored it.)
- the claim that students had worked harder, achieved more, used the library more, and were less bored
- the closer faculty-student relationships ("I have enjoyed the better acquaintance with my students which comes from seeing them all day.")
- the need for creative teachers, who had to spend more time in preparation, use diverse teaching methods, and be committed to the plan
- the social fragmentation of the entire student body that can occur when small groups study intensively together
- the debate over whether intensive study is applicable to all subjects
- the language department's concern over retention
- the need for "vigorously controlled" experiments to test achievement and retention in intensive and concurrent programs. (Brown, 1940)

The Hiram Study Plan was dropped in 1958. Although 80 percent of the students still favored the plan, the faculty and administration were less enthusiastic. New faculty members fresh out of graduate school did not understand the system, preferred research to teaching, and tended to lecture for three hours. The language department still felt intensive study was inappropriate to their field. Finally, a new president who came in in 1957 felt that the plan was not understood by outsiders, or by high school guidance counselors, who tended to see the Hiram Plan as especially appropriate for students with academic problems (Hefferlin, 1972). Doubtless, too, the new president wanted to put his own stamp on the institution.

Army Special Training Program

One of the best-known experiments in intensive learning is the Army Special Training Program (ASTP), started during World War II. The army, under pressure to produce trained men quickly, unwittingly pointed out the failure of much American schooling and the possibility for greater efficiency through intensive study. Appalled by the poor quality of high school and college graduates in foreign language use and comprehension, the army created intensive language training programs in which thousands were trained by native speakers using intensive methods to become fluent in foreign languages within months. Similar projects were established in a number of technically oriented areas. Army planners consulted extensively with Hiram faculty before setting up their program (Davis, 1946).

After the war, many high school and college instructors who had experienced the ASTP brought the notion of intensive study into the public schools. Some

schools drew upon army methods by using native teachers, having specialized phonic drills, devoting increased attention to speaking and listening, and using language to understand other cultures. Many schools adopted schedules that allowed two-hour blocks of time for language labs.

In general, however, the impact of the army intensive programs on high school practice was not significant. Many teachers felt that the army approach was not suitable for high school teaching. They felt that the goals of the army training programs were more clear-cut than the goals of secondary schools. The high school teachers believed that the unquestioned and straightforward goals (keeping alive and winning the war) rather than the intensive format or methods were the key to the army's success. Furthermore, the morale in the military was better and the soldiers were more "mature" than high school students (Quinn, 1945).

Among the plethora of studies about the relevance of the army intensive method to high school language instruction was an opinion survey of language teachers, many of whom felt that "pupils in their early teens lack the power of sustained concentration for an intensive approach," that the intensive course was not "thorough," and that their classes were too big and schedules too rigid for any kind of change anyway (Morgan, 1947).

These examples of experiments in intensive education, the colleges and the army intensive language institutes, illustrate several of the major themes – strengths, values, and problems – that the report will deal with in greater detail. The early programs share the feeling of being unique, an excitement about generating new modes of learning, a close faculty-student relationship, and a scant impact on the educational system at large.

The Discovery of Time as a Dimension of Learning

In the fifties and sixties, educational practitioners and researchers separately began to explore the relationship between time and learning. Some teachers began to feel that the concurrent schedule and the Carnegie Unit were detrimental to learning. The Carnegie Unit was attacked as a convenient administrative device based on bureaucratic concerns and not on children's needs for growth and development. It was seen as a "cutting education into pieces," and "the headache of every educator" (Gerhard, 1955). "What is the result of the helter-skelter system of too-many, too-short periods?" asked one educator.

> The teacher tends to feel harried and resentful. The pupil's idea of culture is inevitably that it is made up of unrelated bits of information, as in a crossword puzzle or quiz program; that these bits and pieces do not touch his life at the roots; that the teacher himself as he flits from topic to topic is some sort of production worker fulfilling a quota. (Drachler, 1954)

Martin Mayer criticized the concurrent system for not allowing students to pursue any intellectual interest in depth. Mayer hoped "administrators could bring themselves to consign the Carnegie Unit form of organization to whichever circle of Hell will receive it" (Mayer, 1961).

Of course, the Carnegie Unit had never reigned completely over certain fields in high schools. Vocational subjects such as home economics, industrial arts, and agriculture had always reserved a substantial block of time for practical experience to learn specific skills on the job. For over half a century, vocational courses had combined classroom learning with work experiences outside of school. After the Second World War, academic subject teachers too began to want more time and opportunities for their students to learn from experience. Educators began to realize that the 45-minute period might be suitable for lecture or rote learning, but not for more active learning approaches, such as field experience or independent research (Ferrara, 1959). Summer schools, at the college and high school level, were early examples of opportunities for students to study one subject at a time. Then in the 1960s, to counteract the January doldrums, provide a change of pace, and offer off-campus opportunities for students, many colleges offered an interim period between semesters. For a month, students focused on one course or project. Faculty experimented with new methods; students had a chance to study non-traditional subject matter and to plan and carry through independent research. By 1971, an estimated 350 colleges had some form of interim or 4-1-4 program. Although many interim programs have focused on field work and study abroad, a significant number of intensive academic courses have come to be a regular part of interim offerings.

The Carroll Model

While school people were experimenting with slight modifications of the concurrent schedule, educational researchers began a coherent theoretical consideration of the negative significance of measuring schooling in terms of hours rather than mastery of concepts and skills. John B. Carroll (1963) suggested that success in a given learning task depended upon the learner spend-

ing "the amount of time that he needs to learn the task." Carroll proposed a five-part model for school learning in which three of the factors concerned time. He pointed out that time had been neglected in favor of consideration of materials, teaching quality, space, and the attitudes and abilities of students. Carroll saw time as the crucial variable for school learning. The five elements in the Carroll model were:

(1) aptitude – the amount of time needed to learn the task under optimal instructional conditions

(2) ability to understand instructions

(3) perseverance – the amount of time the learner is willing to engage actively in learning

(4) opportunity – time allowed for learning

(5) quality of instruction – a measure of the degree to which instruction is presented so that it will not require additional time for mastery beyond that required in view of aptitude.

Carroll suspected that most children in classrooms usually were not given as much time to complete learning tasks as they needed because teachers felt pressed to hurry on to cover the next area. He also made a distinction between "elapsed time" and the time actually spent on the act of learning. This is the "time during which the person is oriented to the learning task and actively engaged in learning." It is the time during which the learner is "paying attention" and "trying to learn" (Carroll, 1963).

Few took Carroll's model seriously until a decade later, when Benjamin Bloom picked up the theme of time and learning. He acknowledged that Carroll, in setting time as the central variable in school learning, produced a major shift in our thinking about education and educational research.

Bloom pointed out the irrationality of measuring school performance in terms of time alone by citing studies which compared achievement in various states and nations, indicating that students in some mastered as much in six or eight years as students in other schools did in 12 years. He also analyzed how the time was actually spent in classrooms:

> Some students began the class hour by getting down to work at once, and they continued working almost throughout the class hour. Other students spent as much as the first 15-20 minutes fumbling around, talking to other students, getting their materials assembled, fixing their hair, clothing, etc. Following these preliminaries, these students spent almost 20 minutes in actively working with the learning material, then slackened off and spent approximately the last 15-20 minutes getting ready to leave the class. (Bloom, 1973)

Bloom was interested in predicting the percentage of time students would need to complete a learning task, and in looking beyond a student's intelligence and aptitude to specific conditions of learning. Bloom's concept of mastery learning does not directly concern us here. What is relevant are his assumptions about "good conditions of learning."

> Under good conditions of learning students put more of their class time into purposeful activity (related to the learning activity), while under less favorable classroom conditions, students tend to decrease the percent of time in class they are putting into purposeful learning activity. It seems to us that one group is *learning to learn* more effectively, while the other group is decreasing in their effectiveness as learners. (Bloom, 1973)

Bloom's assumptions about "good conditions of learning" are shared by intensive education practitioners. They include:

- the recognition that a sufficient period of time is necessary in learning
- the importance of feedback, which includes both the opportunity to discover difficulties and the time to give students help
- the attention to the quality of instruction, which is based on the clarity of objectives, the process of original instruction, and giving feedback and help.

Proponents of intensive study would argue that concentration in one or two subjects provides students with ample time to complete learning tasks. Teachers have time for giving pertinent feedback about how well students are achieving and for identifying students' particular area of difficulty. Most important, under the intensive format teachers must focus their attention on the quality of instruction.

The increasing recognition in schools that the Carnegie Unit was not sacred and the realization that time was an important factor in learning led to innovations of two distinct kinds in the 1960s and 70s.

Flexible Modular Schedule

The major focus, called "flexible" or "modular" (or flexible modular) scheduling, divides the school day into many short, equal units, perhaps 15 or 20 minutes each. Students sometimes take as many as a dozen courses at a time. The modules may be combined to produce a variety of time packages to fit various goals and methods. Flexible modular scheduling emanated in part from a desire for more efficient allocation of resources. This approach is particularly appealing to schools which can computerize scheduling, and it has often been linked to approaches

which stress behavioral objectives and individualized learning packages. Behaviorism is the theoretical godfather of flexible modular scheduling.

Intensive Schedule

The second, less widespread or well-known time innovation is the revival of intensive study. Based on an appreciation of extended time as a key factor in learning, a number of intensive study programs in secondary schools and colleges have arisen. Though varied in structure, they share these constant emphases and intentions:

- the structure of learning into intensive short-term courses, taken only one or two at a time for several hours of each school day.
- the intensity of intellectual experience, critical thinking, individual research, in-depth case studies, etc., rather than the overall treatment or "coverage" of subjects concurrently.
- the importance of close relationships between faculty and students and among the students.
- the enrichment of the curriculum with a greater variety of offerings, including extensive off-campus activities.
- the need for greater preparation, varied teaching methods and approaches to deal as thoroughly as possible with the individual needs and development of both students and teachers.

Intensive study practitioners share a conviction that concentrating on one or two subjects at a time is the most logical and valid way to learn. Intensive education in many ways reflects in practice the theories about human development and learning of Dewey and Piaget.

Variety of Intensive Education Programs

In intensive education, as in most educational innovations, the practice – what is going on in schools – is further advanced and more complex than the existing research literature. A few colleges have adopted the intensive format, notably Mt. Vernon College and Colorado College.[1] At the secondary level, intensive education is practiced at a wide variety of schools: independent schools,[2] parochial schools, military academies, public high schools, and vocational technical high schools. Intensive study programs have grown out of local concerns, needs, strengths, and limitations. There is thus no one model of intensive education that everyone has adopted.

This section is designed to convey a sense of the variety of intensive education practice by giving brief descriptive vignettes of specific programs. The programs share in common the study of one or two subjects for a concentrated period of time. Some programs are fully intensive, with all students and all subjects taught intensively all year long. Others are modifications designed for specific students, or for certain subjects or for part of the year.

A Visit to an Intensive Class

St. Scholastica Academy: A brief description of a visit to an all-day class in ecology can give a flavor of intensive learning and a glimpse of the kind of educational experience an intensive schedule encourages.

The School: St. Scholastica Academy is a small Catholic girls' school located in Cañon City, Colorado, a city whose major institution is the Colorado State Prison.

(Footnotes on page 25)

The Academy was established in the late 19th century by a group of Benedictine nuns, originally from Chicago, who moved from Breckenridge, Colorado, where they had run a school and hospital when the silver mine closed, and bought an unused military academy.

The school has a colorful history of courageous women combatting misfortune and prejudice to offer a disciplined and quality education to girls in the Southwest. The nuns traveled by train from Chicago, often alone and at night, accompanied by armed cowboys and other frontier characters. Later, they badgered the state legislature into paying reparations when the Army Corps of Engineers, in blasting a river, accidentally destroyed the school building.

Today's students are both boarders and day students – the "day hops" generally coming from a local Catholic elementary school and the boarders from Colorado, New Mexico, Utah, Wyoming, and Mexico. About a third of the students are Spanish speaking; most are college bound. Admission to the school is based on motivation and character, rather than on test scores or academic ability.

In the fall of 1975 the school began with a four-week intensive institute on Spanish language, history, and culture, involving the entire faculty and student body. After the institute was over, each department met to discuss goals for the school and decided to develop some plan of education that would bring about what they had experienced at the institute: "a longer amount of time with the students and fewer pressures."

The planning resulted in an intensive schedule adopted in the fall of 1975, in which students take one academic subject (English, foreign language, science, math, or history) five hours a day for three weeks. Art, music, dance, physical education, drama, photography, and journalism are taken as adjuncts (one hour a day for three weeks).

When I visited the school for three days, I had a chance to talk to the principal; teachers in English, sciences, math, Spanish, history, drama; and a dozen students. One student expressed a feeling about the new plan, which was shared by most others:

> You don't stop in the middle of one thing. Last year you could be putting a certain thing in your book and then it was time to go. You'd stop in the middle of a conversation or a discussion and you wouldn't get back to it until two days later. And now you get everything out and you learn 100 percent more in one day than in one week.

Although there was some feeling that music had been short-changed and that the arts should have a longer period, students generally liked the adjuncts – the break during the day for track or macramé or dance.

The Class: On the walls of the science room were a pair of antlers, a crucifix, some topographical maps of the U.S., a schedule of the public TV series, "Nova." Around the room were book shelves, an aquarium, frogs pickled in formaldehyde, and two microscopes – the equipment was older and more limited than in most high schools I have visited. The ecology class was composed of 25 students (22 freshmen, 2 sophomores, and 1 senior), sitting at tables and dressed in the school uniform of brown plaid skirts and white blouses. The teacher laid out the plans for the day. He explained that they were going to learn about weathering and erosion, do a small-group project, and start an individual research report, in preparation for a conference on the conservation of water. Several students said they wanted to finish their crystallography experiment today. So that was added to the plan.

For the next half-hour the teacher lectured on the process of weathering, with the students taking notes.

After the lecture, the class discussed the difference between mechanical and chemical weathering. A student asked whether changing liquid into a gas was an example of changing chemical composition. The teacher mentioned the increase in the rate of weathering in Cleopatra's needle, after it was removed from Egypt. When another student asked how chemical weathering differed from mechanical weathering, the teacher gave an example of chemical weathering: the forming of rust on metal. After this discussion, the teacher went around the room with a rock and an eye dropper of carbonic acid, illustrating how the acid dropped on the rock fizzes, and is an example of chemical weathering.

As the teacher strolled around the room, students had many opportunities to ask individual questions (which may or may not have seemed pertinent to the topic of weathering). For example, one asked, "I was watching a fire the other night and wondering, 'What is it – a gas, a liquid, or a solid?' " The teacher asked that student to find out about flames and tell the class about them tomorrow.

The class spent the rest of the morning looking through two microscopes at crystals they had grown, drawing them, and trying to identify their crystalline formation. After lunch and an adjunct, the class was divided into four groups, two groups to do library research on different aspects of erosion; the other two to do erosion experiments in the back yard of the school with siphons, buckets, old tin gutters, sand, gravel and pebbles, water, and a stopwatch.

In the middle of the afternoon, after much trial and error with varying the speed of the water flow and the slant of the gutter, some students who had been very cooperative and supportive for about two hours, were a bit testy with each other. But when the second group came out from the library, the first group explained their experience – and what pitfalls to avoid. The girls worked late into the evening rechecking the experiment and working on their presentations.

The class was characterized by a variety of teaching approaches (lecture, discussion, small-group work, individual laboratory observations, and independent library research). Students did much of the work independently or in small groups. They had time and the opportunity to incorporate the subject matter the teacher presented into their own intellectual framework, to make individual connections, and to raise questions and concerns based on their own personal comprehension of the material. For example, after the lecture on weathering, a student asked about the relationship between chemical processes of weathering and the rust on a tricycle that was left out in the rain. The teacher's main role in the afternoon was to set the task and then observe and help out the students with their erosion experiments. From observation, he could see how the students approached the problem, which previous lessons they had understood and could put to use, as well as how they interacted as a group.

At other times during the three-week ecology module, the students might spend a day or an entire week 35 miles away at Poverty Gulch, where the science department

had set up an experimental weather station on land leased from the U.S. Bureau of Land Management.

This particular class illustrated some of the characteristics of intensive study: a variety of teaching approaches, provision for spontaneity and active learning modes, close personal relationships among the students, integration of academic and experiential learning.

Examples of Fully Intensive Programs

Fully intensive programs, in which the entire academic schedule is converted for concentrated study, are of two basic types: those with four to five hours of one subject for three to eight weeks, and those with a daily schedule of three 1½ hour blocks (which is often divided into a three-hour major and a 1½-hour minor) for four to five weeks each. In addition to St. Scholastica, schools with a total commitment to intensive study range from Fork Union, a military academy serving 600 boys in grades 5-12 in rural Virginia, to Gill/St. Bernard's, a small coeducational independent day school (K-12) in suburban New Jersey.

Fork Union: Fork Union Military Academy (Fork Union, Virginia) boasts the oldest successful intensive program in an American secondary school. Under the One-Subject Study Plan, started in 1950, the cadets study one subject for five periods a day for eight weeks and then change to another. In May a student reviews the subject in which he received the lowest grade. A unique feature at Fork Union is that if a student fails a subject, he has a chance to make it up the same year during the May review period. If a student is on the Honor Roll he can enrich his program with a fifth subject.

Fork Union tries to schedule students so they begin the year in the subject they are most proficient in – this practice helps new students adjust to the program. One advantage of the system is that instructors can discover more quickly when a student is not learning than they could by shorter contact of the concurrent 45-minute period. The faculty can "apply corrective measures as the weakness becomes evident." When the program first started, a faculty member said that students were less bored under the One-Subject Study Plan and that the new schedule provided "a method of doing a better job of teaching." Although only one or two of the faculty members who originated the Plan still remain at the academy, the new teachers are very enthusiastic about the plan.

Gill/St. Bernard's: Under the unit plan at Gill/St. Bernard's in Gladstone, New Jersey, students study one subject all day for seven weeks and then switch to another. Subjects such as sculpture, mechanical drawing, and health (in addition to the normal academic fare) are also taught intensively.

A visit to a 4½-hour English class on James Joyce taught at Gill/St. Bernard's illustrated the variety of pedagogical techniques characteristic of intensive education. The students had read half of *Portrait of the Artist as a Young Man* the night before. During the four hours of English on the day I visited, the class had a quiz on the novel, saw and discussed a film showing the Dublin haunts of Stephen Dedalus, participated in a student-led seminar which analyzed the central action and characters of the first three chapters (the teacher had designed study questions as a guideline for the leader), heard a history teacher give an oral rendition of part of *Finnegan's Wake*, and had a chance to talk individually with the teacher about their topics. The students had a lively discussion on stream of consciousness, symbolism, the Catholic Church, their own religious beliefs, and the relationship between Dedalus's personal faith and identity crisis.

To counteract the fragmentation of a sense of school community that often accompanies an intensive schedule, Gill/St. Bernard's has regularly scheduled all-school activities once a week. The day I visited, the school featured a presentation on the penal system from The Fortune Society, an organization of ex-convicts.

Variations on the Intensive Theme

A growing number of schools are adopting intensive formats for a particular group of students or for particular subjects. Some schools have a mixed schedule with concurrent courses for much of the year, interspersed with intensive sessions of varying lengths.

For Particular Students

Andover Short-Term Institute: One program designed for a specific group of students is the Andover Short Term Institute (STI) at Phillips Academy, Andover, Massachusetts. The STI is based on experience with intensive education in the Summer Session since 1964. The STI offers a six-to-ten-week residential intensive course in a variety of subjects to students from other high schools at different periods throughout the academic year.

The students have a chance to take a subject that they might not ordinarily be able to take in their own high schools, meet participants from other parts of the country, and live away from home. The STI faculty teaches concurrently during most of the year, but is released from regular Phillips Academy classes to teach an intensive

institute. The students interviewed from this program were very enthusiastic about the program; but it is difficult to separate out the effects of the intensive course from the effects of the residential experience and of being in a completely different educational atmosphere from the high schools which most participants normally attended.

The Andover STI attempts to enrich and expand classroom learning with out-of-class experience. A German class visited an old-age home to converse with native German speakers. A visual studies class made weekly visits to different museums. An observational astronomy class combined classroom study of the stars, using audio-visual materials, charts, textbook, and teacher lecture, with actual experience in observing the solar system at night through a giant telescope. (My visit coincided with the eclipse of the moon.) The intensive schedule (and the fact that the students were living on campus) enabled the class to take advantage of atmospheric conditions in scheduling observing sessions rather than be restricted by the exigencies of traditional concurrent scheduling.

The Andover faculty who choose to teach in the Institutes (and not all do) welcome the opportunity to work with a diverse group of students – often quite different from the Andover student body – and to develop new materials and strategies which they can use when they resume their concurrent classes.

East/Manual Complex Senior Seminar: Other schools offer an intensive experience for a particular group of their own students during a specified time in the school year. For example, East/Manual Complex in Denver, Colorado offers a term of concentrated, experience-based, two-to three-week modules for selected seniors called "Senior Seminar." East High School and Manual High School are large, racially integrated urban high schools with white, black, Spanish, and Native American students.

The seminar subjects change every year, depending upon students' needs, teachers' talents, and community resources. In 1976, the following seminar units were offered: Marriage (called "I'm Not Sure Yet"), Perspectives of the Socially and Physically Handicapped, Photography, Archaeology (an on-site dig), and The American Indian (The students lived with a Navajo family). The seminar has a strong Outward Bound orientation: "The technique is one of providing a real situation of understandable stress, contiguous with highly structured activities demanding cooperation from all members of a group in order to achieve a goal." Students have a chance to test themselves through "real life" experiences, develop confidence to meet new situations, and develop communication skills.

For Certain Subjects

Vocational education programs have been in the forefront of intensive education experimentation and off-campus activities for over half a century.

Greater Lowell Regional Vocational Technical High School: At Greater Lowell Regional Vocational Technical High School in Massachusetts, intensive education is a week-long module occurring every other week. Students alternate between an intensive program in their vocational field, which takes place outside of the school, and an academic program, which is taught concurrently at the high school.

During the intensive "shop week," students in Child Development, for example, learn about child care from working on-site at a day-care center and having a 2½-hour seminar every day. At the center the students organize group activities, help with meals, and deal with individual children; during the seminar, they plan projects for the children, discuss individual problems, and explore the relationship between child development theory and practice. The next week the students return to the high school for their English, social studies, math, and science. The school attempts to relate the academic courses to the vocational field. Thus the child development seniors take anatomy, physiology, and nutrition in science class, to relate to their study of physical development of young children.

The alternating schedule lasts all year for students. On any given week, half of the high school students are out of school working intensively in their field and half are in school studying a concurrent academic program and a course related to their career. The state requires that vocational students spend 50 percent of their time in direct training in the field, 25 percent on academic courses, and 25 percent on courses related to their field. The particular format of working all day for a week resulted in part from practitioners – masters of the trades – insisting that students needed an unbroken period of time to learn the skills and concepts of a particular vocation.

Other schools have intensive courses just in foreign languages or just in English, while the rest of their academic program follows the traditional schedule.

For Part of the Year

Some schools choose to vary their academic schedule with a combination of concurrent and intensive learning experiences. Intensive study then occurs for only a brief period of time during the year. In these cases the intensive block may be utilized exclusively for off-campus internships, career exploration workshops, Outward Bound experiences, or the like.

Murray Road Annex: For example, Murray Road Annex, a small, decade-old, alternative public high school in Newton, Massachusetts, has two two-week concentrated modules a year, during which all students stop their regular work and focus on one subject exclusively. Faculty and students feel that the intensive schedule offers a change of pace and that some areas of knowledge are better taught intensively; others concurrently. The scheduling and content of intensive courses are arranged by students and faculty each year. Courses on human behavior, American Indians, synectics, women's history, mathematics, and history of the 1930s have been offered. One group put on the play *Spoon River;* another studied the penal system. One advantage of the system is that the short, finite period of time emboldens students to try difficult subjects such as some aspect of advanced mathematics that they might not risk taking during the regular schedule, out of fear of failing. Students know that the course will be over in two weeks – as opposed to five months – and figure they can endure anything (even failure) for that time. In addition to the intensive modules, Murray Road has a four-week period for internships or independent research, in which students have worked in emergency wards, made a survey of other alternative schools, or attended another school.

Intensive in Name Only

Two schools have had major difficulties with programs they identified as intensive, largely, I think, because their programs were not sufficiently intensive to gain the benefits of the innovation, but were sufficiently different from traditional concurrent practice to incur some of its disadvantages.

One school, after experimenting with a successful intensive interim, adopted a schedule in which students took one "intensive," which met for two hours every other day and two additional subjects of normal 45 minute length. The course, though labeled "intensive," did not give students the opportunity of really concentrating on one or two subjects.

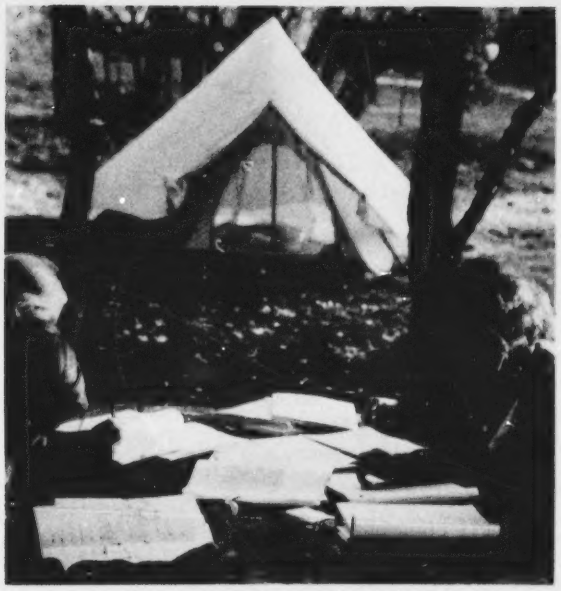
Another school had seven four-week modules during the year; each student could take three to five courses (for 50 minutes each) within one module. With several 50-minute courses taken concurrently and frequent period changes, this schedule really served only to subdivide traditional year-long courses into a series of mini-courses, but there was no effort to achieve concentrated study.

* * *

The variety of intensive programs described in this section share in common a dedication to the concentration on one or two learning activities at a time. To fully realize the teaching and learning benefits of intensive education, it is important to understand the effects of the innovation on three areas: student learning, teaching role and methods, and relationships between students and teachers, which are discussed in the next section.

Three Critical Issues:

Student Learning, Teacher Role, Human Relationships



While a number of managerial and administrative problems inevitably occur in the implementation of a new approach, this section is concerned with those issues that directly affect teaching and learning. The discussions with administrators, teachers, and students, and a selected review of the literature on intensive education, revealed intensive study to have important implications for student learning, teacher role and teaching methods, and human relationships in the classroom. In describing each issue, I will draw on both the opinion of practitioners and on whatever additional research support exists. For each issue, I will focus first on the views expressed in the questionnaires and interviews, and then on the research evidence. This section discusses the strengths, values, and problems of the three central issues.

What Are the Effects of Intensive Education on Student Learning?

The majority of teachers and administrators felt that intensive study improved the conditions of student learning. The new schedule decreased the fragmentation of learning, and "allowed for a more natural, non-fragmented approach to subject content, with continuity and off-campus possibilities." Students "like concentrating on one thing at a time"; they can "develop a theme more fully, and have time to explore follow-up, penetrate experience and share."

Traditionally, student learning has been measured by performance on standardized achievement tests. But student learning is too complex and multi-faceted to be defined solely in terms of achievement based on test performance. To approach the question of the effect of intensive education on student learning, we must look at several dimensions of the learning process: achievement and retention, motivation and interest, and the integration of classroom and out-of-class learning, and the appropriateness of intensive learning for all subjects and for all students.

Achievement and Retention

Educators are concerned with the effects of any innovation on student achievement and retention over time. Achievement is usually measured by performance on a test shortly after completion of a course. Retention refers to remembering (and sometimes using) the material over a longer period of time.

Generally, teachers and administrators I talked with believed that students achieved more in an intensive course than in concurrent courses, and the improved achievement had been largely unanticipated.

Virtually no school adopted intensive education specifically because they wanted to increase student achievement. Many administrators hoped that a concentrated experience would make students more enthusiastic and interested in learning, but they never connected that explicitly to improved achievement. Nonetheless, they reported that the intensive format "increases student achievement and motivation," and "increases testable knowledge, especially noticeable in languages, math, writing and reading."

Except in one or two cases, in which a student got placed in a course that was over his head (chemistry, for

instance, with an insufficient math background) and felt he was in a constant failing situation, students felt they worked harder and did better under the intensive format. As one student said:

> I think that you spend a lot more time studying. It is not the kind of thing that you can procrastinate a lot. You have to get it done. There isn't that much time for you to mess around.

In several studies of achievement at the college and high school level, students achieved as well or better in intensive courses when compared to matched students in concurrent courses.

- A University of Minnesota study comparing intensive summer sessions with regular concurrent courses found "no significant difference in achievement between intensive summer term and regular academic quarter students as measured by the usual examination" (Kanun, Ziebarth, and Abrahams, 1961).
- A subsequent study at the University of Indiana compared achievement and attitudes of students in nine different courses taught by the same instructors in an intensive all-day three-week intersession and during the (concurrent) spring semester. They found students did as well or better in the Intensive Intersession Group as in the concurrent group (Richey, Sinks, and Chase, 1965).
- Morel (1971) and McGowan (1972) found increased achievement for high school students in intensive language courses.
- Stewart (1934) compared students in a "concentrated" (two subjects for 110 minutes each) and regular plan (four subjects for 40 minutes each) in Mt. Vernon High School, New York. He studied two comparable tenth-grade groups of 90 pupils each. The regular class took four subjects (English, Latin, French or Spanish, and Geometry) for 40 minutes each every day for 16 weeks. Each concentrated section took two subjects for 110-minute periods each for eight weeks. On both standardized and teacher-devised unit tests, Stewart found no difference in scholastic achievement between concentrated and regular classes.
- Kuhns (1974) did a similar study at Mt. Vernon College with two groups of freshmen entering in the fall of 1968, one under a modular calendar (taking a series of one course for three weeks each), the other on a traditional schedule. She reports that by "January 1969 a dramatic contrast was evident in the academic accomplishment of the two groups." The control group had 33% of its students on academic probation in comparison to the experimental group (on the modular calendar) of whom only 7% was on probation.

Although teachers generally agreed that intensive education fostered good or better achievement, they were more uncertain about whether students would retain the information learned intensively over a long period of time. Language teachers, particularly, worried that students taking French I in October would forget it before French II eleven months later. Several schools have ongoing language maintenance courses. Since the "forgetting curve" dips most sharply directly after a course and then levels off thereafter, students probably forget as much French in the traditional three-month summer vacation as they would over the longer intervening period which characterizes many intensive programs. However, many teachers found that the intensive format allowed them time to reinforce ideas and concepts again and again, and to discern individual learning styles, both of which aided in retention. In addition, teachers and students both felt that retention of material was directly related to whether they practiced and used what they had learned.

Most of the considerable literature on retention is irrelevant to this study. Many retention studies have been done in laboratory settings, testing subjects on retention of nonsense syllables. "Long term retention" was often defined as being able to recall or recognize something 24 hours later. Very few studies have been done on retention of material learned in school.

One such study (Bassett, 1928) measured retention of history by pupils in the sixth, seventh, and eighth grades. She was interested in how much history was retained almost a year and a half after the course, and what kind of historical knowledge was gained and what kind forgotten. Her findings suggest that children, if taught well, remember a lot more from school than many people think. After 16 months, the pupils she tested (N = 38) retained 71.96 percent of the history they had learned. She analyzed the "forgetting curves," which showed a much more rapid loss from the initial test to the four-month interval than during any of the later intervals, when it gradually approached a horizontal line. She concluded that children do most of their forgetting immediately after studying a school subject.

Bassett also found that seventh-grade children most often remembered history that was personal (facts about people) and concrete. They were less able to grasp and retain abstractions and technicalities of governmental procedure, which makes sense when one considers the level of cognitive development of most seventh graders.

Bassett also related retention to an enriched curriculum and a varied teaching approach. Interest in the subject and effort on the part of the child also aided in retention.

The only comparative study of retention under concurrent and intensive schedules at the secondary level was Stewart's (1934) study of the regular and concentrated plans at Mt. Vernon High School. He tested pupils in geometry six months after they had taken the course. He found that the mean of the concentration group dropped much more than that of the regular group. In other words, apparently the intensive group had forgotten more rapidly than the regular group. Stewart's analysis went as follows:

> One might infer from this that the learning of the concentration group faded out more rapidly than that of the regular group. In this particular case, however, it should also be pointed out that the mean of the concentration group in November was higher than the mean of the regular group in May. In other words, even with what they had forgotten, the concentration group in November still knew as much as the regular group knew at the close of the experimental period in May.

In a later review of studies on the permanence of school learning, Davis and Sterrett (1954) concluded that in science, social science, and history, secondary students readily forgot factual material, but retained principles and concepts. Ausubel (1968) relates retention to the way the material was learned in the first place, saying that material learned by rote is less easily retained than material learned in other more "meaningful" ways.

Some teachers involved in intensive education acknowledge but are not worried about the problem of retention. Yet, many believe retention is generally better with intensive study, because of the opportunity to focus on one subject and the chance to learn material through several different approaches.

Similarly, students feel they may not have covered the same amount of material as in a concurrent course, but what they have learned they have learned more thoroughly, and thus have remembered better. One student said:

> You're able to grasp the knowledge more thoroughly because you don't have a chance to forget it from your day to day duties . . . you eat it, drink it, you are always with it. You can't stop thinking about it. Whereas in school when you go to a math class and you go to an English class, you go home and you forget everything.

Those who had experienced both intensive and concurrent learning felt they "had to learn" under the intensive format – they could not just "sit there, fall asleep, or doodle and still get As."

Although students and teachers believe that retention of material improves with concentrated studies, no one has ever done a serious comparative study of retention under intensive and concurrent schedules. Thus, we don't know whether retention is better or worse in intensive learning.

This is a major research need, especially since some teachers in mathematics and foreign languages have questions about retention in their subjects.

Motivation and Interest

Motivation to learn and developing an interest in a particular subject bear somewhat the same relationship to each other as do achievement and retention. The first is a more immediate, more measurable version of the second. Thus, motivation to study something and sustaining an interest are part of the same process.

The intensive format was credited by administrators and teachers with "sparking real and sustained interest" in learning and in specific subject fields. Many administrators felt students were more motivated, less bored, more active and more responsible for their own learning and had "more time to concentrate on basic skills" under the new system.

The students I interviewed felt more interested and involved in their courses in part because the concentrated time span characteristic of intensive education and the exclusive focus on one or two subjects permitted them to pursue tangents, relate their own personal reactions to a book or film, modify an experiment which had gone awry, and get into longer and more significant discussions.

Several students mentioned the frustration of having to stop a good discussion (under the concurrent schedule) when the bell rang. Others mentioned the advantage of seeing a film, taking a short break, and reconvening to talk about it – "while it is still fresh in your mind." Teachers, too, felt that the intensive format provided an ideal opportunity for students to get stimulated about a particular topic and pursue it in greater depth.

Several students credited their increased motivation with the fact that learning was easier: "I found it a lot easier to learn because my mind was only on one subject and you could think about it all the time."

Students commented that intensive learning provided a much greater opportunity to find out which subjects they really liked and which ones they didn't. One student stated:

> When I have Spanish, I think, dream, and everything in Spanish. It makes it easier to learn and find out what subjects you really are interested in. Each one you study so intensely that you find out if you really like it or not. I know now what I would rather study later on.

Seniors, especially, were more certain about their future plans. As one teacher said, "I have counselling periods. I help them decide what they are going to do. And I found them much more definite than any other senior group that I have ever encountered."

Individual students talked about writing poetry late into the night during an English unit, or coming to school early to work in the chemistry lab, as evidence of their increased interest in a subject because it was taught intensively.

The increased motivation of students may be due in part to the greater number of course offerings made possible by the intensive schedule. Seventy-eight percent of the programs reported an increase in courses.

In one sense, this increase is not surprising, since adopting a block schedule almost always means breaking down the year-long concurrent sophomore English class into several concentrated courses, such as the short story, expository writing, or British poetry; and students can often select the particular English courses that interest them most.

Reports of college intensive study programs emphasize increased motivation and interest of students as a major factor for retaining the innovation (Brown, 1940; Bouwman, 1971; Hefferlin, 1972; Brooks, 1969). Although teachers, students, and administrators feel that motivation increases with an intensive format, no systematic, comparative studies of motivation have been done.

Integration of Classroom Learning and Off-Campus Experience

Intensive education, according to practitioners, offers more opportunity for off-campus activities and also makes possible integration of off-campus experience with classroom learning. In an effort to enable students to participate in "real world" situations, many schools have set aside a month in which students participate in some kind of off-campus action learning program. More and more teachers and students are coming to recognize off-campus work or travel or study experiences as a valuable and legitimate part of learning.

Over half of the administrators mentioned the increased opportunities for off-campus field experiences as a major advantage of the intensive schedule. The new schedule was "far more flexible for field trips, foreign study, special projects" than the concurrent schedule.

Yet, off-campus experience is still largely viewed as separate from classroom learning. Under an intensive format, students and teachers have a greater opportunity to integrate off-campus experience with academic study in the classroom. This integration can help students to reflect upon and analyze the experience. It also can give them the chance to learn skills and become competent in ways that normally do not occur in the classroom. One group spent three weeks studying the history and ecology of the Green River in Colorado, organizing the provisions for a raft trip, and finally taking a trip down the river.

The teacher, too, has a chance to learn more about students in different situations and to see how ideas developed in class are put to use. A child development teacher said:

> I get concerned because I don't think the students are grasping the concepts that I am trying to get across, but then a month later I'll see them working with children in the preschool and they'll be doing just that thing.

The off-campus activities offer the opportunity for students to learn in a different context, and to take initiative for their own learning. One student described a field experience:

> On the biology campout, we had to make our own community and we had to fulfill certain objectives, like taking pH tests of the soil, identifying 15 plants, etc. We were down at the Pine Barrens in southern New Jersey. We had a whole day to ourselves; we could just lie around real lazy and all – but it was do that and flunk. The teacher just left it all up to us.

This example illustrates a theme constantly reiterated by students and teachers: intensive learning demands that students take much more responsibility for their own learning.

Appropriateness of Intensive Learning to All Subjects and All Students

Although they recognize the need for further comparative research in the areas of achievement and retention, motivation and interest, practitioners in intensive education programs are more concerned with two additional questions related to student learning:

> Is intensive education appropriate for all subjects?
> Is intensive education appropriate for all students?

Widespread disagreement abounds about whether all subjects can be successfully taught intensively. Although

there are examples in practice of virtually every subject being taught successfully in an intensive format (I observed intensive classes in the sciences, English, foreign language, social sciences, and arts) practitioners – and skeptics – persistently ask whether an intensive schedule is appropriate to all subjects. Some argue that lab sciences or studio courses such as art or music, which require that students be actively involved, are natural for intensive study. Others feel that in subjects such as creative writing students need "time to grow and mature in self-expression."

Some teachers raised questions about the need for ongoing review in math or language or English skills; others wondered whether history or philosophy or music was appropriate for intensive study. The basic conclusion I reached was that in spite of the debate, any subject could be taught intensively if the teacher was willing and committed to the intensive format.

More teachers questioned whether intensive learning was appropriate to all students.

Some students seemed to adapt better to the intensive format than others, yet practitioners are not clear on how to identify those students or how best to orient students to intensive study.

The faculty and administrators in our sample felt that motivation and maturity were more important than intelligence or ability in predicting success in an intensive format. Students, too, felt that self-discipline and knowing how to use your time were critical to success in intensive learning. These are, of course, attributes that not all high school students possess.

Several teachers thought intensive education was more appropriate to some students than to others. One remarked:

> There are some kids who are just plain more restless. I don't think the passive student is particularly suited for this kind of thing. But I'd say a more motivated student would do better. It is hard for some kids to just be in one place all day. I see kids who seem to flourish under this system and feel they have really learned the subject. That is all they have to do, so they get something out of it. I've seen other kids who just tune out after a while.

In conclusion, teachers, students, and administrators involved in the daily practice of intensive education firmly believe that the innovation has many positive effects on student learning. Practitioners reported that achievement and motivation had improved in intensive programs and that students had greater opportunities for out-of-school learning experiences and for shaping academic and personal goals.

In addition, the extra time gave teachers a chance to deal with individual learning needs. As one teacher explained:

> Many of the students in our programs have had a very difficult time academically in school. So what they need really is the opportunity to get familiar with a subject, explore it in a way that is comfortable for them, and to feel that they have accomplished something when they are done. That is the way I see the use of the word intensive. We try and meet individual needs and we've been provided with adequate time to do it.

These observations are primarily based on individual comparisons of the present intensive plan with the past concurrent schedule within each school.

Serious comparative studies of the learning process and outcomes, including retention, in intensive and concurrent programs are clearly needed.

What Are the Effects of Intensive Education on Teacher Role and Teaching Methods?

Teachers of intensive courses are as varied as intensive education formats. Some of the teachers I talked with were teaching for the first time, after raising children or directly after college; some had taught for several years in a concurrent schedule; some had taught intensively for a half dozen years. A number of themes and strong feelings emerged from the interviews and observations: a sense of a change in role, an immutable need for variety in teaching and learning techniques, and a corresponding need to examine the relationship between specific subject matter and instructional technique. In addition, teachers had a closer relationship to students, more opportunity to address individual differences, and a feeling of utter exhaustion.

Teacher Role

"Teacher role" refers to what teachers actually do in the classroom and how they perceive their responsibilities. Teachers' classroom behavior is in large part determined by their expectations and the expectations of students about the nature of the teacher role.

The general feeling expressed in the interviews was that the intensive learning situation inspired and, to some extent, demanded, a change in teacher and student roles. "There is nothing worse," said one student, "than a teacher who teaches like he always did."

As one teacher described the change:

> We have a different conception of teaching than we did before. You see yourself not as the one who gives learning.

The feeling expressed in the interviews is that in intensive courses teachers and students become more "human" – showing moods, weaknesses, enthusiasms, and respect that they feel might not be appropriate to display in the traditional roles.

One student whose school had just adopted an intensive format described the change in the teachers: "This year they don't seem to play that role of high authority." Another described intensive classes as having "the kind of atmosphere in which you have to deal with the teacher as a person, not as an employer."

Teachers described how their changed role seemed to create a less pressured classroom atmosphere. "I find myself being less businesslike; I am much more relaxed in the classroom."

The changed teacher role results in large part from the fact that the teacher cannot lecture, run discussions, present materials all day long. Students must begin to take a more active role in the learning process. At first the prospect of teaching the same subject to the same students all day seemed overwhelming to teachers; but as one teacher explained, "If you think of intensive teaching as a whole new way of handling time – much more study, much less of classroom itself – it becomes less frightening."

The intensive teacher also may take on the role of counselor. Because the students and teachers are with each other for large blocks of time, they have the chance to talk about academic and other problems before they can begin to interfere with students' ability to concentrate on learning. A typical comment by one teacher, echoed by many others, was:

> I find that I do much more counseling than I did before, because I felt under the old system I would just meet them for 40 minutes and then they were somebody else's care. It was that type of attitude. Now, you do find yourself caring for them; you are curious about them. We sit in class and some days we start off class with, "Are you going on to college? What kind of job are you going to get?"

The intensive teacher's role as evaluator also is different in an intensive program. Many teachers felt that the concentrated period of time allowed them to assess student progress at a deeper and franker level than under the concurrent format. They felt they could more readily identify learning difficulties and areas of interest of individual students. Administrators, too, felt that intensive teaching permitted "a more thorough analysis of student strengths and weaknesses."

For the most part, students agreed that the intensive format enabled teachers to know better whether students were understanding the subject matter. At the same time students noted that they could no longer "hide" – the resulting closeness of faculty/student relationship ensures that "goofing off" is more readily detectable. One student commented on how the changed teacher role in intensive learning affected assessment of student achievement.

> There is an understanding between teacher and student. You don't have to constantly be on guard, trying to pick out what you have to do to get a good grade. You have an understanding because you are around them so much. And they understand you and help you more.

Teachers also indicated that the intensive format tended to force them to think about their own teaching more and evaluate it more carefully.

Teaching Methods

Faculty, students, and administrators were in universal agreement that intensive education required a diversity of teaching methods – variety in presentation and more active learning on the part of the student. According to one teacher:

> I think one great advantage is that you can't be dull. It's impossible. You can be dull for 40 minutes and kids accept it, but not for four and one-half hours a day – it demands of teachers variety.

The majority of administrators surveyed reported on a major advantage of the system – the enriched curricular program and improved teaching – that the intensive format seemed to engender. "The new system makes possible a tremendous variety of teaching techniques and learning activities." The intensive schedule "demands skill and imagination and effort from teachers," and "allows more innovative planning for presentation of course material." As one administrator said bluntly: "Teachers must teach."

Students, too, felt the key to a successful intensive course was the teacher and teaching methods – not the subject matter. One student said what really made a class boring was not the subject matter, but

> the teaching methods. Not really the method, but the teacher. You get some teachers who are a lot more interesting in the way they present the material and in the activities that we do. Throughout the day, the teacher discusses work sheets, book work. We do about six different types of work within one day. It makes it seem like you are doing different things.

Another student described a boring class which lacked a variety of pedagogical approaches.

> The conversation just got stale. The class was really too monotonous. We didn't have enough going on. We were just sitting at our desks.

The need for varied pedagogical approaches means that teachers usually spend more time in preparation for intensive teaching. One teacher compared the difference between preparing for a concurrent class and an intensive class. In describing the preparation for concurrent classes, he said:

> Preparation consisted of putting together a lecture and an associated, very quick experiment that they could do in 45 minutes with some time to clean up. Those quick kinds of things are much easier to put together. You can keep them interested in a 40-minute period.

When he realized he would be teaching intensively, he asked himself:

> How would I like to sit out there for five hours and just listen to somebody? Even if it was the most interesting subject in the world, I would go nuts. . . . So, you have to throw in a multitude of different things – things that are stimulating and interesting. In terms of preparation, it is more difficult.

Teachers in intensive programs frequently reported increased interest in their subject and an increased awareness of the need to match institutional strategies with individual student learning styles. Because they had only one subject to prepare a night, they could concentrate their intellectual energy on that one thing.

As one teacher said:

> I can take the time to really look into the subject for myself, which makes it more interesting for me, and more enthusiasm gets carried over in the class, even if we don't touch on that particular deeper subject matter. So it affords me the opportunity to really get familiar and become more comfortable with my subject matter. It allows me to delve deeper into something I enjoy.

Other teachers talked about the stimulation of having to be "instantly creative" in class, of not being as bored and of being better prepared and better motivated than previously.

Although teaching, in general, is hard, it may be even harder under the intensive system. The intensive interpersonal relationships with students, the need for a greater variety of activities and methods, and the necessity of really being on top of the material all mean increased demands and responsibility for the teacher.

Seventy-two percent of the administrators reported an increase in demands placed on faculty and administrators. One administrator commented: "We were understaffed in the first place; but the intensive schedule has gotten more work out of everyone – sometimes too much." Intensive education also places qualitative new demands on teachers: "It breaks up a lot of personal and professional habits."

Teacher exhaustion, brought about by the need for more planning, more course offerings, more varied teaching methods, and the closer relationship with students, can be a problem in intensive programs. Intensive education can be "emotionally and mentally exhausting for teachers." Administrators and teachers commented that the intensive schedule requires more preparation time for teachers, that the type of preparation itself was more complex and difficult, and that it was difficult for teachers to find time for reflection. In addition, increased academic and personal demands from students and the closer faculty-student relationship also contributed to teacher fatigue. "The necessary commitment to individual students can become almost paralyzing."

The limitations of pedestrian teachers become more evident and problematic with an intensive schedule. ("Dull teachers make *horrible* immersion teachers.") Whereas students might tolerate poor teaching in a concurrent schedule, intensive learning can be boring and tiring for students unless the teacher is skillful and imaginative. Administrators felt that with limited ideas, initiative, creativity, or dedication on the part of the teacher, the system could be very difficult.

The existing research on teacher effectiveness in secondary schools suggests that student learning gains are most closely related to the general climate of learning that exists in the school, and that school learning climate in turn is linked to such variables as teacher expectations and teacher relationships with students. (Good, Biddle, Brophy, 1975). This evidence would suggest that intensive education tends to create conditions for effective teaching and learning.

In a review of a major new study of school teachers, Featherstone and Featherstone describe teachers in concurrent schedules as having "a desperate feeling about time" – a sense that they can't control the time in their own classrooms. Their "intense anger over interruptions – the p.a. system booming out in the middle of a lesson – is all the deeper because the intrusions characteristically reveal the system's lack of respect for the core of

their enterprise." None of this feeling of racing the clock is reflected in our conversations with the intensive teachers. In fact, they reflect a sense of greater control over their classroom time.

The vast majority of teachers interviewed welcomed the challenge of intensive teaching and the opportunity for personal and professional development brought about by the new schedule.

What Are the Effects of Intensive Learning on Relationships Between Students and Teachers?

Generally, administrators, teachers, and students in the interviews strongly felt that the personal relationship between teachers and students was closer in intensive education than in concurrent classes. The improved human relationship was an advantage which does not seem to have been anticipated by most administrators in initiating their programs. Many practitioners drew a direct connection between a closer faculty/student relationship and improved academic learning.

Many people involved with intensive study programs also noted favorably more communication and a closer relationship among the students. Students begin to help each other informally in and out of class. They talk more about what they are studying and see learning more as a collaborative process.

The existing evaluations of intensive study programs indicate that "closer personal relationships" between faculty and students (and among students) are a major advantage of the innovation (Brown, 1940; Brooks, 1969; Hefferlin, 1972). Stewart (1934) reported that the "longer period of the concentration plan was apparently more conducive to friendly relations with the teachers." Furthermore, during the year he studied, 63 percent fewer cases for adjustment came to the advisor's office from the concentration group than from the regular groups. Stewart attributes this finding in part to the closer faculty/student relations in the classroom.

Problems in Relationships

Some students felt that severe personality conflicts could be "disasters" in an intensive learning situation, unless very carefully handled by the teacher and advisors. As one student put it, "getting a bad teacher . . . one you don't get along with, that is a killer."

Some teachers did not feel comfortable in a situation which called for a more concentrated time with students. One teacher explained:

> I get to know students very gradually. By spring I am terribly fond of all my students and I sensed they were of me. But it wasn't duplicated under the intensive program. It took them too long to respond to me.

Other teachers felt that intensive study encouraged them to face interpersonal difficulties they might have been able to avoid in a concurrent situation. Intensive learning provided the chance and impetus to find out what lay behind anger, resistance, or boredom in students.

Another problem was a feeling of social fragmentation; some students lamented that they got to know some students well in their own intensive course but had fewer opportunities to know many students in the school. Teachers, too, felt that the intensive schedule tended to create an "island mentality." Teachers found getting together in the faculty room during free periods more difficult. In addition to reduced social opportunities reported by some students, there was often a "fragmentation of the sense of school community." intensive and concurrent courses mentioned polarization of faculty.

Although teachers believed that the intensive schedule initially tended to fragment the school community, they stressed that when faculty did get together, their conversation often focussed on teaching methods, individual learning styles of students and possibilities of interdisciplinary collaboration. Many teachers felt a greater need to discuss pedagogy – pacing, activities and materials – with their colleagues than they had under a concurrent system.

Relationships with Parents

In many schools, parent organizations and the traditional relationship of parents to the school had to be altered with the introduction of intensive learning. In one program, students talked about the ramifications of their intensive involvement in one subject for their family relationships. In cases where a student was having real difficulty with a subject and was tense and depressed, that feeling carried over to the home life. On the other hand, parents reported that because students got deeply involved in what they were doing, they began to talk to parents about the content of their courses, often for the first time.

Implementing Intensive Education Programs

This section reports the results of a questionnaire survey of administrators of 34 intensive programs in schools around the country.[3] The implementatior issues include:

- Reasons for adopting an intensive format
- Decision-making process
- Initial implementation problems: scheduling, costs
- Orientation of faculty and students
- Relationship between particular administrative concerns and how long the program has been in operation
- Testing and evaluation.

This analysis is intended to be helpful to administrators who already have intensive programs and to those who are thinking about introducing some form of intensive study into their schools.

In reporting the survey results, both percentages and anecdotal comments are included.

Reasons for Adopting an Intensive Schedule

The major reason for adopting some form of intensive study in over a third of all the schools surveyed was to avoid fragmentation of learning efforts in the traditional concurrent schedule of four or five courses. As one respondent put it, "We wanted to make learning a concentrated and intensive experience dealing with subject matter in depth." Further, it was felt that students could follow through on major interests without losing momentum and energy to other commitments and without being hampered by requirements of teachers in other subjects taught concurrently. Administrators hoped intensive study would create a situation which allowed students to learn with "pleasure and enthusiasm," and "without the pressures of keeping up with four to five courses," and that it would enable schools "to take better advantage of the various ways people learn."

(Footnotes on page 25)

Associated with avoiding fragmentation of learning was a belief that a change to an intensive schedule would offer greater flexibility, which would "generate a wider range of courses," "help to stimulate different teaching methods," and "give teachers greater control over class time."

For many administrators the opportunity for extended off-campus and experiential activities was a key reason for adopting an intensive format. They felt that the intensive schedule provided more opportunities for field trips without interrupting other classes, a greater chance to utilize city resources, and a better way to relate off-campus activities to academic work. The administrators expressed the belief that not all learning for adolescents should be confined to the classroom walls, and that an alternative to the concurrent schedule was necessary in order to take advantage of field trips, internships, and cultural or community resources.

The reasons for introducing an intensive schedule were naturally closely related to the type of program at a particular school. Thus, the vocational schools and language institutes felt that a large block of time, which allowed for total immersion in a subject, was the most effective way to teach a trade or a foreign language.

A few schools adopted intensive scheduling in response to general problems, such as lagging enrollment, dwindling finances, or "indifference of students in a traditional program."

Only one school cited a closer relationship between faculty and students, and one other named a closer relationship among students as reasons for adopting the intensive schedule.

Decision-Making Process

Respondents indicated which groups (trustees or school board, superintendent, principal, department chairmen, faculty, students, and parents) were involved in various stages of decision making about intensive education. In the majority of cases, the administrator initiated the idea; faculty, students, and department chairmen were extensively involved in discussing the proposal; and the headmaster or principal, with the faculty, most often made the decision. (In at least two cases in which principals checked that the faculty initiated the idea, I know from faculty interviews that in fact the principal proposed the idea. I suspect that these responses represent either undue modesty or political acumen on the part of the administrator filling out the questionnaire.) Parents were seldom involved in the decision-making process.

Clearly, different schools have different decision-making mechanisms. But even in schools where faculty and student input to decisions is extremely high, often the administrators initiated the idea to plunge ahead in changing to an intensive schedule. Since the schedule is so different from the traditional, decisive leadership and strong administrative and faculty commitment are critical. As one administrator wrote:

> We would probably have failed, if we had not jumped all the way in at the outset. It is not recommended at places where there is a built-in resistance to change.

As a rule, faculty I talked with felt it appropriate for the administration to propose the idea of a substantial schedule change, but they wanted to be involved in planning the new program.

Initial Problems of Implementation: Scheduling and Costs

Once an intensive schedule has been adopted, what early problems or resistances were encountered? Scheduling – deciding what blocks of time to adopt and how to set up the new schedule – was the most immediate initial problem. Scheduling was an initial concern for 78 percent of the respondents. One problem was deciding which schedule to adopt: a full or partial intensive schedule. Schools with full intensive programs have to decide how many blocks of how many days each, and then decide whether to modify that schedule during subsequent years. Partial programs have to decide how to alternate intensive and concurrent schedules. Another problem was smoothing out the mechanics of scheduling.

Since full intensive schedules often result in greater age integration in the classes, assigning individual students to specific classes becomes a more complicated task than assigning all sophomores to sophomore English, as in a more traditional schedule.

A conversation with one headmaster revealed the complexities of making student assignments in a full intensive program. He tried to balance the interests of students, teachers, parents, and colleges:

> The Spanish Department said that the backgrounds of a couple of students were so weak that they were not going to be able to survive in a foreign language. It is silly to have them take the course. "Of course my child can take Spanish, anybody can take Spanish," says the parent. Or the students themselves say, "I can do it if you will just give me a chance. I know I can do it." Well, one is a little gutsy boy and he is going to do it. And none of us really thought he could. So we did let him stay. Another one is falling flat on his face and now wants to get out. So what do you do then? Here we are half-way through the course. Where can I put him? He made that choice and now he is going to spend the next three or four weeks failing every single day. So we shift gears. The Spanish Department says, "All right, I will individualize the program for him and when he ends up the year, he will not have failed but he certainly will not have passed. And we will have to call it Introduction to the Spanish Language or something." But then how are you honest with the college situation? He hasn't really taken it. You can't say he has had Spanish I and you can't go into Spanish II until you finish Spanish I successfully. And you can't get a credit until you finish the second year successfully. So you have to turn around and all at once look at going to school and look at teaching and look at a very different kind of world.

Scheduling was further complicated at schools which were just beginning to offer off-campus programs because of the increased logistics of organizing placements and transportation. Scheduling, although an initial problem for over three-fourths of the programs, was mentioned by only four administrators as a continuing disadvantage.

In addition to scheduling, administrators were concerned with issues of budget and funding. They were asked to assess the financial impact, as reflected by changes in per-pupil administrative and instructional

cost, attributible to the adoption of the intensive format. The returns were a little difficult to interpret. Some administrators had obviously missed the purpose of the question and indicated increased costs which were clearly a function of inflation and not directly attributable to the new schedule. Others had enriched their course offerings at the same time as they implemented their intensive programs, and some increased costs were attributable to a more varied curriculum.

It is difficult to make a definitive statement about the comparative cost of intensive and concurrent programs without the kind of detailed analysis of individual school finances which was beyond the scope of the questionnaire. Nonetheless, in spite of the varied methods of computing costs, roughly half of the administrators felt that administrative and instructional costs had increased under the intensive format; a little less than half felt they had remained the same.

There was almost no reported increase in class size or student/faculty ratio. Well over half of the schools indicated an increase in the percentage of part-time faculty, which one administrator called "the economical aspect of the program: many more people; not much more money."

Faculty and Student Orientation

Since intensive education places tremendous new responsibilities on the teacher, we were interested in ascertaining how schools prepared teachers (and students) for the change. Fifty-nine percent of the schools reporting had special programs to prepare teachers for the new format. The preparation ranged from time off with pay to prepare intensive courses, to seminars in immersion programs, to opportunities for interdisciplinary planning, and to workshops in instructional technology, in how to "individualize" pupil programs, or in human relations. Forty-one percent of the schools had no special teacher preparation at all. Many of them later felt that early attention to the need for curriculum change and varied teaching methods might have forestalled teacher discontent.

Thirty-three percent of the schools reported initial resistance on the part of the faculty. Even where the faculty was in full support of the idea, they were overwhelmed with the tremendous workload during the first year, which involved developing new courses, adapting old ones, and retraining for individualized instruction.

One of the problems of intensive education is that students often don't realize what they are getting into. Student difficulties, which became evident after three weeks into the school year, might have been anticipated or even avoided by appropriate orientation. Practitioners, therefore, suggest that some kind of student orientation is critical to getting off on the right track at the beginning of the academic year. Forty-one percent of the respondents did have some kind of student orientation. Some schools required that students spend an entire day at the school to get the feel of the program before applying. Others handed out written materials on the program or ran orientation sessions for new students in the fall.

Unfortunately, almost 60 percent of the schools had no special program to orient students to the new schedule. Students in these places sometimes did not even know that they were to take one course at a time. Many schools were beginning to recognize the need for changes in the counseling and advisory systems.

Relationship of Particular Administrative Focus to Length of Time in Program

Administrators who are just inaugurating intensive programs may be interested in knowing whether the administrative focus changes as the program matures. We suspected that scheduling would be a dominant concern during the first years of the program and then would subside, leaving administrative energies free for other issues. We divided the programs into three categories, depending on how long the intensive program had been in operation: programs in their first or second year of operation, programs three to four years old, and programs five years old and older. The results indicate that administrators do spend time on different issues, depending on the "maturity" of their intensive program.

As the program matures, scheduling decreases as a concern. The newer programs (one or two years old) were still working on scheduling, determining the optional number of modules in each school year, or designing a week-end break between blocks "for faculty rest and renewal."

Curriculum development and human relationships seem most important to the three-to-four-year-old programs.

Sixty percent of administrators of three-to-four-year-old programs indicated a change in administrative issues since the first years of the program. They spent more time on achieving a balanced offering of courses. As one explained, "Curriculum development gets renewed emphasis; structure of program is of less concern."

The more established programs (5 to 25 years old) also reported considerable changes in administrative concerns over the years. "At first we had to solve scheduling errors; now we're involved in refinements." The

older programs were more concerned with assessment and evaluation. Experienced programs also focused on specific substantive issues such as improving the quality of independent study proposals, giving a greater emphasis to cognitive development in the intensive module – not just to experiential off-campus activities – or improving the transition and relationship between intensive and concurrent sessions in the schedule. The older programs spent more time dealing with people visiting the school, helping nascent intensive programs get started, fund-raising, explaining and publicizing their programs, evaluation; in other words, the innovation was becoming "institutionalized."

Staff development remains a priority for programs at all stages, although teachers' needs change as they become more familiar with intensive teaching. For the two most experienced groups, human relationships – rather than scheduling – is the top priority.

In sum, the newer programs seem to be involved with ironing out the details of scheduling, coping with faculty exhaustion, organizing field trips and off-campus experiences. The more established programs, having agreed upon a schedule and adjusted to the different work load, begin to think about specific aspects of learning that are most suited to intensive study: sequencing of courses and various combinations of intensive and concurrent scheduling to meet specific needs.

Testing and Evaluation

Most of the schools had done some testing of their intensive programs. Eighty-three percent had polled student and faculty attitudes about the program; 61 percent had done some follow-up of graduates (usually interviews or questionnaires to students in colleges or back in their home school). Thirty nine percent of the schools had done some achievement testing; only a third had compared intensive with the concurrent programs. Clearly the major purpose of in-house evaluations was to ascertain whether faculty and students involved in the program liked it, and what their suggestions were for improvement. Often this kind of questionnaire was used to justify the innovation to outsiders (parents, school board, or others) and to inform administrators about particular problems.

Everyone involved in intensive education expresses the need for further research. Administrators are no exception. Respondents were asked to rank issues they felt most important to evaluate: faculty/student relationships, student achievement, teaching style/methods, appropriateness of intensive learning to different subjects, appropriateness to different students, and retention. Achievement ranked first and faculty/student relationships ranked fifth as research priorities. However, there were considerable differences in priorities between administrators in full intensive programs and administrators in partial intensive programs. Retention was the second research priority for the all-intensive programs, but fourth for the partial programs, who were more concerned about whether intensive learning was appropriate to all students and its effects on teaching style and methods. Of least interest to partial programs was appropriateness of intensive education to some subjects; evidently partial programs have decided this on a pragmatic or philosophical basis already.

One principal suggested that further research was needed on the similarities and differences of intensive programs at the elementary and secondary levels. He wrote:

> I would like to see a comparative study of the intensive pattern of elementary school education and the new pattern of intensive study in the high school. My reason for this interest is that intensive scheduling is traditional in the lower grades, yet when it is introduced in high school, it is a radical innovation.

For the administrators surveyed, intensive education is more than just a schedule change. The innovation has prompted many to attend to issues of staff development and relationships between students and teachers, and has helped some analyze the process of decision making and change at their own schools.

Conclusion

OBSERVATIONS ON RESEARCH AND ADOLESCENCE

Some educational practitioners are reluctant to adopt an innovation until the research evidence indicates definitely that the innovation is clearly superior to the current practice. In fact, the research evidence is almost never "all in."

Many questions about teaching and learning in the intensive format remain. Yet, the intensive education programs described in this report have started not because the research evidence indicates that it is the best method of instruction and not because it is administratively cheaper and easier to do, but because it was perceived by its advocates to touch the very core of the nature of teaching and learning.

Research

Educational research in the first half of the 20th century, carried on in the educational psychology tradition, often focussed on narrow variables and occurred in laboratory settings. The results of these learning theory studies have reached the classroom in the form of such innovations as programmed instruction, computer-assisted learning and the like.

At present, the methods and priorities of educational research are changing from laboratory experimentation to observation studies in the natural setting. In investigating the role of time in learning, researchers are discovering three basic factors that influence the time students spend in learning: the relevant cognitive and affective entry characteristics that students (and perhaps teachers) bring with them, the quality of instruction that the students receive, and the context in which the instruction takes place (Block and Burns, 1975). The researchers emphasize the importance of minimizing time *not* spent in learning. Intensive education may be a way to do just that. This will have to be determined by well-controlled studies comparing student learning under concurrent and intensive conditions in a variety of institutional settings.

Yet research is not the only source of creative ideas about educational innovation. Educational practice has been strongly influenced by the writings of philosophers (such as John Locke and John Dewey), developmental psychologists (such as Erik Erikson and Jean Piaget), the courts (the Brown decision), and social scientists (James Coleman and Christopher Jencks). A prime source of educational innovation – and this seems to be the case with intensive learning – is actual classroom experimentation.

Adolescence

Adolescence is the time of transition to adulthood. One major task in this transition is identity formation: the adolescent must find out and decide who he is in relationship to the rest of society. Developmental psychologists hold that human growth is a sequence of stages, with discrete tasks at each stage. Erikson has postulated eight psycho-social stages. Piaget has set forth four major stages of cognitive development, and Kohlberg has created a theory of six stages of moral development. The major intellectual task of adolescence is the movement to the stage of formal operations: developing the capacity to reason abstractly, create hypotheses, and make logical deductions. In the moral realm, adolescents move from conventional to principled moral reasoning (the final two stages of Kohlberg's scheme).

Development occurs as a result of an interaction between maturational processes and the immediate environment. People do not automatically move from one stage to another; they have to be physiologically ready and in an appropriately stimulating environment. Nor can they be pushed on to the next stage before they are mature; a stimulating environment alone is insufficient to advance to a higher stage, if the maturational mechanisms are not sufficiently developed. This view sees human development neither as merely an unfolding process (the traditional metaphor is a flower opening up), nor as only a shaping process (the most familiar metaphor is molding a lump of clay). Rather, development occurs when there is an interaction of maturational and environmental factors.

Three conditions facilitate development at any stage of the human life cycle: actual experience, a moderately discrepant environment, and opportunities for role taking. Intensive education may have the potential to provide these conditions for adolescent development better than the concurrent format. The intensive schedule offers more opportunities for active learning experiences through a rich teaching environment with films, games, projects and many varied off-campus activities rather than the traditional lecture/discussion format.

In addition, students need what is called "cognitive conflict"; that is, new information to incorporate into their existing intellectual framework, which has the effect of slightly altering that framework. If the discrepancy is not enough – i.e., there is nothing new – the student is bored. If it is too much, the student sees no connection between the new input and his own cognitive make-up, and thus fails to progress. In the intensive format teachers come to know their students' intellectual capabilities extremely well within a short period of time. Consequently, the opportunity is there for the teacher to provide students with precisely the right kind and amount of intellectual stimulation.

Finally, to help make the transition to adulthood, adolescents need the chance to experiment with different roles. Not only does intensive education vastly enhance role-taking opportunities out of class – assisting a veterinarian, volunteering in an art museum, apprenticing to an artisan, working with retarded children – it also demands that adolescents take a much more active role as learners in the classroom. Intensive education practitioners recognize the impact that time can have on learning when it is organized in large uninterrupted blocks to enhance student interest and serve students' developmental needs.

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Over the years I have observed numerous dreary classes with listless adolescents and preoccupied teachers who did not seem focussed on any learning activity. In many of these classes neither the content nor the pedagogy seemed particularly exciting. The typical format was a lecture/discussion, consisting of the teacher talking and a "discussion" in which the teacher posed a series of questions and the students answered them. This kind of class tends to confirm the notion advanced by Coleman that social class rather than the school environment make the difference in educational achievement. Secondary schools have recently been criticized by the Panel on Youth for failing to prepare youth for adulthood:

> Schools do not provide extensive opportunity for managing one's affairs, they seldom encourage intensive concentration on a single activity, and they are inappropriate settings for nearly all objectives involving responsibilities that affect others (1974).

Intensive education is a promising way for students and teachers to concentrate on a single activity, take increased and varied responsibilities and thus restore the influence of the school in adolescent development.

Footnotes

[1] For example, Chapman College inaugurated a program in 1947 in which each student took a four-year sequenced program in general education and teacher training. Students took one course for three hours a day for six weeks. Semester-long courses in health, physical education, art, and music were offered for an hour in the afternoon (Wilson, 1952). The intensive schedule was dropped in 1957.

At Mt. Vernon College students can take one course for three weeks, or two courses for six weeks. In an interdisciplinary program of concentrated study at MIT, professors of physics, engineering, and mathematics decided to teach their courses in sequence, rather than simultaneously – each took a month and students concentrated on one course for that month (Parlett and King, 1973).

Colorado College has had a schedule of nine modules of three and a half weeks separated by a four-day break since 1970. Students usually take one intensive course for one or two blocks; but they may take two "half courses" for three blocks or ten weeks. Classes in dance, physical education, applied music, and language maintenance skills run concurrently. The college is engaged in a comprehensive four-year longitudinal study of faculty and student development under the plan (Heist, 1975).

Several European secondary schools have intensive programs. In a German school, students begin a year of French with two weeks of all-day drill and cultural immersion, followed by a traditional course for four months, and ending with another two weeks of intensive study (Preisendorfer, 1974). In Finland many high schools have adopted "period teaching," in which students study one or two subjects for three hours a day for five weeks, with a three or four day break between periods (Ryykonen, 1973).

[2] Intensive education, like progressive education, advanced placement, education for women, and summer schools, seems to have been pioneered by independent schools (Cremin, 1961).

[3]Thirty-four questionnaires were returned, 24 in time to be analyzed; three additional schools notified us that they didn't have an intensive program. Thus the results reported represent 70 percent of the schools contacted. Of these about half are independent secondary schools, the other half are divided between parochial, vocational, public alternative, and military schools. The survey included schools from all parts of the country (Northeast, South, Midwest, West) and from different geographical areas (urban, suburban, and rural).

About a third of the schools had a full intensive schedule all year for all subjects enrolling all students. The rest had partial intensive schedules, for some of the year, some students and/or some subjects. For some issues the data for the full programs and partial programs will be discussed separately when clear differences show up; for other issues the two program types will be grouped together.

The responding schools differed widely in their orientation (college preparatory, career exploration, military training), and in the composition of their student bodies in terms of ethnic distribution, and educational level and average income of parents. Student populations in individual schools ranged from all-white to 35% black to 32% Spanish-American. The total institutional cost per pupil reported ranged from $480 a year in one school to $3,402 in another. In 81 percent of the schools, the majority of the students went to four-year colleges; in the remaining 18% less than half of the students went on to a four-year college.

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Appendix

The Appendix lists a variety of intensive education programs at the high school level. The program descriptions include information on:

- name and address of school
- type of school
- school enrollment and enrollment in intensive programs
- year intensive program took effect
- schedule description
- areas in which intensive programs are offered
- comments.

(The direct quotations in the comments were made by school officials either in an interview or on the questionnaire.)

AMERICAN LANGUAGE ACADEMY

Arthur A. Burrows, Director Howard L. Jones, President

Northfield Mount Herman School
Northfield, Massachusetts 01360
Type of School: Independent, co-educational, boarding and day, 9-12

School Enrollment: 1,080
Enrollment in intensive learning programs: 79
Intensive program took effect June, 1974.

Schedule Description

During the academic year: five days a week, six hours a day, and evening study (three ten-week terms).

Summer: six days a week, five hours a day, and evening study (six weeks of academic work, three weeks of home stay with an American family).

Intensive Programs Offered

Literature		Community Study	
Foreign Languages (English)	✓	Off-campus Internship	
Science		Independent Study	
Math		Career Exploration	
History (Social Sciences)		Art and Music	

Comments

The purpose of American Language Academy is to teach English to international students. It is for those "who need to acquire proficiency in understanding, speaking, reading, and writing in English." It is set up to help students from other nations to "achieve advanced proficiency in English and to adjust to the cultural and academic requirements of life in the U.S."

The program provides intensive English instruction for international students either during the summer or during the academic year. As their English proficiency increases, interested and qualified students may be scheduled for concurrent part-time auxiliary study in the regular Northfield Mount Hermon curriculum.

"Although our language training is intensive, we have broken up each day into four or five skill area classes, usually with two or three different teachers. This blend allows us to keep the students involved and interested over a ten-month period. However, there are times the teachers wish they had larger blocks of time for the intensive treatment of certain problems. This would be very difficult to schedule in co-ordination with the regular high school curriculum and schedule."

ANDOVER SHORT TERM INSTITUTES

Jerry Foster, Director, Short Term Institute — Theodore R. Sizer, Headmaster

Phillips Academy
Andover, Massachusetts 01810
Type of School: Independent, co-educational, boarding and day, 9-12.

School Enrollment: 1,100
Enrollment in intensive learning programs: varies yearly, about 100
Intensive program took effect 1974.

Schedule Description

A six-to ten-week course, which usually meets for three to four hours a day and has extensive field experience, depending on the nature of the subject.

Intensive Programs Offered

Literature	✓	Community Study	
Foreign Languages	✓	Off-campus Internship	
Science	✓	Independent Study	
Math	✓	Career Exploration	
History (Social Sciences)	✓	Art and Music	✓

Comments

The Andover Short Term Institutes provide an opportunity for students and teachers from secondary day schools to study intensively one subject during several weeks at Phillips Academy, Andover. Courses have been offered in Advanced Experimental Chemistry, Observational Astronomy, Visual Studies, Animal Behavior, French, German, Finite Mathematics, and Forms of Creative Imagination (Photography and Poetry).

An ongoing evaluation (questionnaires and interviews) is investigating students' expectations and experience at the Short Term Institute, as well as their performance back in their home school and changes in social attitudes and self perception. Generally students feel they learn to work independently, to live in a group, and to live away from home.

AREA D. ALTERNATIVE SCHOOL

Jack S. Moscowitz, Principal

3871 Grandview Boulevard
Los Angeles, California 90066
Type of School: Public, alternative, K-12

School Enrollment: 1,300
Enrollment in intensive learning programs: 300
Intensive program took effect 1974.

Schedule Description

A two-week block at the end of each trimester, for a total of three per school year. The block is for five days a week, 8:30 to 2:30 each day.

Intensive Programs Offered

Literature	✓	Community Study	✓
Foreign Languages		Off-campus Internship	✓
Science	✓	Independent Study	✓
Math	✓	Career Exploration	✓
History (Social Sciences)		Art, Music, Drama	✓
PE, Communication	✓		
Psychology	✓		

Comments

Area D is a K-12 alternative school in Los Angeles. Some intensive courses, such as leather work or folk dancing, are age-integrated, with students in each class ranging in age from 8 to 18. For the students the two-week intensive block offers a welcome change of pace, course content and classmates.

ATHENIAN SCHOOL

Dyke Brown, Headmaster

2100 Mount Diablo Scenic Boulevard
Danville, California 94526
Type of School: Endependent, co-educational, boarding and day, 9-12.

School Enrollment: 155
Enrollment in intensive learning programs: 155
Intensive program took effect 1974.

Schedule Description

The Athenian Plan divides the school year into six academic terms, each comprised of six weeks. The daily schedule is divided into three academic periods of one and a half hours each. Two of these units occur in the morning and the third occurs in the afternoon. Sports and the work program also meet in the afternoon. The student's major course meets for two of the periods, and his or her minor course meets for one of the periods each day. Students usually take two subjects, although they sometimes take one.

Intensive Programs Offered

Literature	✓	Community Study	
Foreign Languages	✓	Off-campus Internship	✓
Science	✓	Independent Study	✓
Math	✓	Career Exploration	
History (Social Sciences)	✓	Art and Music	✓

Comments

The Athenian School stresses outside classroom and off-campus experience to augment the effectiveness of books and teachers. The Athenian Plan provides opportunities for experience to further learning and cognitive development, as well as personal growth. Some examples of intensive courses which included related off-campus experiences are: Medical Biology (Students work at a hospital and with ambulance crews); Urban Studies (Students live and work in center city); Child Psychology and Parenting (Students visit day-care centers, nursery schools, and schools for handicapped children).

Other experiential learning activities have included various archaeological digs in Mexico and California—searching for artifacts of pre-conquest Indians and Sir Francis Drake.

All of the off-campus courses are optional except for the three-week Outward Bound experience required of all juniors.

THE CAMBRIDGE SCHOOL

Robert M. Sandoe, Headmaster

Georgian Road
Weston, Massachusetts 02193
Type of School: Independent, co-educational, boarding and day, 9-12.

School Enrollment: 300
Enrollment in intensive learning programs: 300
Intensive program took effect 1973.

Schedule Description

Seven modules in year, 24 class days each. Three daily class periods, 90 minutes each. Major courses meet three hours (or two blocks), minor courses for 1½ hours (or one block). Students take all three blocks; classes meet every day. Some courses run for two modules. There is a four-day break between modules.

Intensive Programs Offered

Literature	✓	Community Study	✓
Foreign Languages	✓	Off-campus Internship	✓
Science	✓	Independent Study	✓
Math	✓	Career Exploration	
History (Social Sciences)		Art and Music	✓

Comments

The intensive program at Cambridge was originally set up to increase off-campus learning opportunities. The school has a strong program in the arts.

Under the intensive schedule, faculty can tailor the curriculum to each student, offer a wider variety of courses, and utilize the talents of part-time resource people. "Curriculum development is a continuing concern and in fact now gets renewed emphasis. However, the structure of the program is of less concern. Need for greater attention to professional development of faculty. . . . The program is *not* merely a rearrangement of the calendar or a device to permit doing some things not done before. It is a whole new philosophy, embodying whole new ways of learning."

The faculty development program includes video taping classes and analysis of teaching style, strengths, and areas for improvement.

THE CANTERBURY SCHOOL OF FLORIDA

Fr. Louis H. Hayden, Jr., Headmaster

P.O. Box 611
St. Petersburg, Florida 33731
Type of School: Independent, co-educational, day, K-12.

School Enrollment: 42
Enrollment in intensive learning programs: 23
Intensive program took effect 1975.

Schedule Description

The school year is divided into seven terms of 23 days each, two mini-terms of seven days each. Most classes are of 90 minutes' duration; some are 180 minutes. Average student load is three courses (4½ hours a day). Courses vary in length from one to four terms.

Intensive Programs Offered

Literature	✓	Community Study	
Foreign Languages	✓	Off-campus Internship	
Science	✓	Independent Study	
Math	✓	Career Exploration	
History (Social Sciences)	✓	Art and Music	

Comments

Begun with grades 10-12, the program is expanding in Fall 1976 to include the ninth grade.

"We are implementing an advisory system to provide for greater assistance to students, should any problems arise."

CAREER STUDIES CENTER

M. Eugene Mittel, Principal

50 West Oak Ridge Drive
Hagerstown, Maryland 21740
Type of School: Public vocational center, 9-12.
Enrollment in intensive learning programs: Total 600
Intensive program took effect 1967.

Schedule Description

The Career Studies Center serves the vocational education needs of seven high schools in the area. Throughout the school year students alternate every two weeks between spending full time (six hours a day) at the center and taking courses at their host high school. Each group of students attends the center for a total of 18 weeks for two years.

Intensive Programs Offered

Literature		Community Study	✓
Foreign Languages		Off-campus Internship	✓
Science		Independent Study	
Math		Career Exploration	✓
History (Social Sciences)		Art and Music	

Comments

The two-week intensive vocational program has several advantages: it simulates a work day, converts travel time into instruction, allows for more individualization and a closer student-teacher relationship, and allows for job completion in two-week blocks. The faculty participated in a University of Maryland workshop for instructional technique and method.

THE COLORADO SPRINGS SCHOOL

Robert G. Macdonald, Headmaster

21 Broadmoor Avenue
Colorado Springs, Colorado 80906
Type of School: Independent, co-educational, boarding and day, 7-12.

School Enrollment: 150
Enrollment in intensive learning programs: 100
Intensive program took effect 1975.

Schedule Description

The Unit Session Plan divides the year into eight sessions of 21 days each. Each day has four units of 90 minutes. Students can elect to take one, two, or three courses.

Intensive Programs Offered

Literature	✓	Community Study	✓
Foreign Languages	✓	Off-campus Internship	✓
Science	✓	Independent Study	✓
Math	✓	Career Exploration	✓
History (Social Sciences)	✓	Art and Music	✓

Comments

The program for 9-12 grade students encourages independent study and off-campus experiences.

The Unit Session Plan was implemented in response to faculty desire for change to enable the school to offer a more varied program and to stimulate different teaching methodologies. Colorado Springs School has experienced some sense of fragmentation of the school community and some "parent confusion." The English department under the Plan has individualized its program; in lieu of sophomore English, a student "selects four or more units of English best designed for his or her *own* needs, interests, and abilities."

COLUMBUS HIGH SCHOOL

D. D. Mortimer, Principal

1164 Farnham
Columbus, Wisconsin 53955
Type of School: Public high school, 9-12

School Enrollment: 600
Enrollment in intensive learning programs: 300
Intensive program took effect 1972.

Schedule Description

The academic year is divided primarily into 12-week blocks (some are six weeks). The daily schedule is divided into two-hour time periods. During the day students take two to three courses. Thus a student takes a course two hours a day for 60 days.

Intensive Programs Offered

Literature	✓	Community Study	
Foreign Languages	✓	Off-campus Internship	
Science	✓	Independent Study	
Math	✓	Career Exploration	
History (Social Sciences)	✓	Art and Music	

Comments

Some courses are taught intensively and others not, depending on the age of students and the adaptability of the course to the intensive format. The advantages of the system are more course offerings, more flexibility, ease in scheduling, more work opportunities and better utilization of facilities.

EAST/MANUAL COMPLEX

John J. Astuns, Principal

1545 Detroit Street
Denver, Colorado 80206
Type of School: Public high schools, 9-12.

School Enrollment: 2080
Enrollment in intensive learning programs: 200
Intensive program took effect 1970.

Schedule Description

Seniors from East High School and Manual High School, selected by a controlled lottery, may take a semester-long seminar consisting of several two- to three-week modules of concentrated learning experiences.

Intensive Programs Offered

Literature		Community Study	✓
Foreign Languages		Off-campus Internship	
Science		Independent Study	
Math		Career Exploration	
History (Social Sciences)		Art and Music	

Comments

The senior seminar at East /Manual Complex "is an attempt to provide learning experiences and personal growth development in areas not dealt with effectively by traditional methods." The goals emphasize self–discipline, self-reliance, and heightened self-concept; and eliminating fear of participation in new activities, reducing interpersonal alienation of ethnic groups, and developing the ability to use cooperative skills in social activities. To fulfill these goals, the program offers modules in Outward Bound activities, marriage, special needs, an archeological dig, photography, and "leisure skills."

FORK UNION MILITARY ACADEMY

J. W. Pendergrass, Dean Col. K. T. Whitescarver, President
Fork Union, Virginia 23055
Type of School: Military, boys, boarding, 5-12.
School Enrollment: 626

Enrollment in intensive learning programs: 473
Intensive program took effect 1950.

Schedule Description

Each subject is taught in an eight-week block of time. The equivalent of five periods daily is spent in the study of the subject.

Intensive Programs Offered

Literature	✓	Community Study	
Foreign Languages	✓	Off-campus Internship	
Science	✓	Independent Study	
Math	✓	Career Exploration	
History (Social Sciences)	✓	Art and Music	

Comments

The Academy adopted the One-Subject Plan in 1950, and has continued to operate under this curriculum plan since that year. All students in grades nine through twelve are enrolled in the plan; elementary school students are involved in a more traditional program.

Students in the One-Subject Plan have completed four units of eight weeks each by the end of April. During the month of May students review the subject in which they received the lowest grade, except those whose grades were all at the Honor Roll level, in which case a fifth subject is studied.

The Academy lists the following advantages for the One-Subject Plan:

1) Each subject gets equal attention from the students.
2) A failure can be made up in the same school year in the May review period.
3) Teachers discover more quickly student weaknesses and deficiencies.
4) Conflicting homework assignments are eliminated.
5) The schedule can be arranged so that students begin a school year with a subject they enjoy.
6) More effectively concentrated post-graduate work can be done—several courses in an area of weakness can be selected.

GILL/ST. BERNARD'S SCHOOL

John J. Wright, Jr., Headmaster

Box 239, Claremont Road
Bernardsville, New Jersey 07924
Type of School: Independent, Upper, co-educational, day, 9-12.

School Enrollment: 245
Enrollment in intensive learning programs: 245
Intensive program took effect 1971.

Schedule Description

The academic year is divided into five units of seven weeks each. Classes meet daily for about 4½ hours. There are 33 or 34 days in each unit. School-wide assemblies, meetings, and late afternoon activities occupy a few hours.

Intensive Programs Offered

Literature	✓	Community Study	✓
Foreign Languages	✓	Off-campus Internship	✓
Science	✓	Independent Study	✓
Math	✓	Career Exploration	
History (Social Sciences)	✓	Art and Music	✓

Comments

The Unit Plan at Gill/St. Bernard's School was instituted in 1971. A primary motivation in adopting an intensive schedule was to facilitate the use of off-campus programs, particularly those that took advantage of the resources of nearby New York City. The school had had some successful experience with intensive education through its Summer Institute and a one-week February intersession.

The school has found that implementing the Unit Plan encourages, if not requires, greater use of field trips, films, guest lectures, and other nontraditional instructional methods. It has also permitted the school to employ a number of specialized part-time Unit teachers.

The experience of the school with the Unit Plan has generally been positive, although in some isolated, extreme cases personal relations became too intense and the total school community too fragmented.

The school feels an obligation "to be completely open to continuing examination and evaluation" in an effort to "prove to the academic community that intensive study is a usable educational experience."

GREATER LOWELL REGIONAL VOCATIONAL TECHNICAL HIGH SCHOOL

Margaret Sprague, Child Care Teacher
William Collins, Acting Superintendent

Pawtucket Boulevard
Tyngsboro, Mass. 01879
Type of School: Public, Regional Vocational Technical High School, 9-12.

School Enrollment: 2000
Enrollment in intensive learning programs: 2000
Intensive program took effect 1974.

Schedule Description

Students spend a full week, all day, in intensive education instruction in a unit trade area. This schedule alternates with a week of academic course work, which is taught concurrently.

Intensive Programs Offered

Literature		Community Study	
Foreign Languages		Off-campus Internship	✓
Science		Independent Study	
Math		Career Exploration	✓
History (Social Sciences)		Art and Music	

Comments

The school believes the intensive format is "the most effective way to teach vocational subjects: work unit trades require extended class periods for 'shop type' instruction."

All academic courses are taught concurrently: "it is probably believed easier for students to alternate between intensive and concurrent classes than to maintain a full intensive schedule."

GROTON-LOWELL UPWARD BOUND

Peter B. Camp, Director Rowland Cox, Headmaster

Farmers Row
Groton, Massachusetts 01450
Type of School: Residential summer Upward Bound program on the Groton School campus

School Enrollment: 60
Enrollment in intensive learning programs: 60
Intensive program took effect 1975.

Schedule Description

Courses in this program are one-week long and average about six hours per day, the longest stretch usually being three hours with a short break. Total in-class time per week is about 30 hours. Depending on the course, classes may be scheduled mornings, afternoons, and/or evenings. Field lessons and field projects sometimes included as class time.

Intensive Programs Offered

Literature	✓	Community Study	✓
Foreign Languages		Off-campus Internship	
Science	✓	Independent Study	✓
Math		Career Exploration	
History (Social Sciences)	✓	Art and Music	

Comments

Students and staff negotiate a contract outlining the goals of the program and specific academic and personal goals to be worked on by each student. Courses have been offered in "Survival Economics" and "Inward Bound" (Human Relations and Sexuality).

"The same group of ten students remains together for the entire six-week period, moving through a different learning unit each week (there are six groups of ten, each staffed with two group leaders). We felt the affective business generated by close group living and learning would produce for us and for the kids. It has.

"We felt it was important to discover that learning could go on in all kinds of ways in many different places. Thus, we established some of the six learning units at sites other than Groton School. We sought variety of experience for Upward Bound students, as well as intensity (Outdoor Science unit located in Franconia, Language Arts in Boston, etc.).

"We felt that the weekly change of environment and teacher, and the accompanying adjustments students had to make, would be valuable. It would give kids the chance to "start again" each week, would give them a sense of having completed a good job six times during the summer, and would provide a chance of "recovery" for a student who may have had a bad week.

"Discipline and behavior hassles are pretty much encapsulated within each group. Two group staff, plus a teacher at each site, plus ten kids make it difficult to avoid confrontation, avoid getting things out and then getting them straight. The intensive format provides fewer chances for kids to play staff off against each other and for cliques to grow. More opportunity for ongoing counseling, group and individual, between group staff and students. The intensity of the living experience is important for us, too – at least as important as the intensity of the cognitive learning experience of each learning unit. This format puts a great deal of pressure on staff, particularly group staff. We've tried to devise an ongoing system of staff support via regular group staff meetings and individual group staff meetings with our program counselor.

"We would find it very difficult to run our program any other way now that we've had two years' experience under this format. Rightly done, it is far superior to the 'other' way."

HOME BASE SCHOOL

John Sakala, Program Chairman

465 Mount Auburn Street
Watertown, Massachusetts 02172
Type of School: Public alternative high school, 9-12.

School Enrollment: 102
Enrollment in intensive learning programs: 102
Intensive program took effect 1971.

Schedule Description

The 9/11 program, which integrates language art skills into the content areas, meets in a two-hour block of time (usually from 9 a.m. to 11 a.m.) three days a week. There are twelve 9/11 courses offered in the areas of science, social studies, and language arts. Students take at least one 9/11 course a semester.

Intensive Programs Offered

Literature	✓	Community Study	✓
Foreign Languages		Off-campus Internship	
Science	✓	Independent Study	
Math		Career Exploration	
History (Social Sciences)	✓	Art and Music	

Comments

The advantages of the program include wider student choice, greater diversity of program and staff development time.

Home Base has designed a student orientation program to help freshmen "use the community more effectively, choose courses of benefit to them, see the importance of decision making in their education." The advisor system works on a contract basis.

Home Base has devised an evaluation system in which teachers write a monthly memo to each student to encourage ongoing communication, and a final evaluation, which includes the requirements of the course and an appraisal of the student's accomplishments.

Parents are extensively involved in the school through study groups on education and child development, and as volunteers at the school.

THE KINKAID SCHOOL

John H. Cooper, Headmaster

201 Kinkaid School Drive
Houston, Texas 77024
Type of School: Independent, co-educational, day, 9-12.

School Enrollment: 1200
Enrollment in intensive learning programs: 1200
Intensive program took effect 1971.

Schedule Description

Some intensive courses are offered during a 25-day interim term in January.

Intensive Programs Offered

Literature		Community Study	
Foreign Languages		Off-campus Internship	
Science		Independent Study	✓
Math		Career Exploration	✓
History (Social Sciences)		Art and Music	✓

Comments

During the Kinkaid School's Interim Term in January, a variety of courses are offered. Most meet 1¾ hours either in the morning or afternoon. A few full-time intensive courses are available, including ones in career exploration, the dance, and a number of overseas travel opportunities.

MIAMI VALLEY SCHOOL

David T. O'Dell, Principal

5151 Denise Drive
Kettering, Ohio 45429
Type of School: Independent, co-educational, day, 7-12.

School Enrollment: 160
Enrollment in intensive learning programs: 160
Intensive program took effect 1974.

Schedule Description

Intensive courses are offered during a four-week intersession in March.

Intensive Programs Offered

Literature	✓	Community Study	✓
Foreign Languages	✓	Off-campus Internship	✓
Science	✓	Independent Study	✓
Math	✓	Career Exploration	✓
History (Social Sciences)		Art and Music	✓

Comments

The school wanted to institute an interval that allowed each teacher total flexibility in scheduling where and when his or her course would meet. One-half credit is awarded for the intensive courses.

A great deal of foreign language teaching is done during this period.

The school hopes to use the intersession as a mechanism for facilitating exchanges with other schools who would be willing to adopt similar schedules.

MURRAY ROAD ANNEX

Ronald L. Barndt, Mathematics Teacher

35 Murray Road
West Newton, Massachusetts 02165
Type of School: Public alternative, 9-12.

School Enrollment: 95
Enrollment in intensive learning programs: 95
Intensive program took effect 1968.

Schedule Description

Two one-week periods and two two-week periods scattered throughout the year. Each group determines how they will use their time. Most meet for six hours per day. This may be during the normal school day, or involve evenings and/or overnight trips.

Intensive Programs Offered

Literature	✓	Community Study	✓
Foreign Languages	✓	Off-campus Internship	✓
Science	✓	Independent Study	✓
Math	✓	Career Exploration	
History (Social Sciences)	✓	Art and Music	✓

Comments

Murray Road Annex, an alternative public high school, saw the need for groups to have time to follow through on a major interest without losing momentum and energy to the commitment. There was also a desire to encourage students to form relationships that would help them to learn with and from each other.

A current concern is to try to determine what kinds of topics or what educational objectives can best be met by utilizing the intensive format, and which ones lend themselves to concurrent presentation. The school is also trying to resist a tendency on the part of the students to view subjects taught concurrently as "academic," and those being offered intensively as merely "fun."

FRANCIS W. PARKER SCHOOL

William D. Geer, Jr., Principal

330 W. Webster Avenue
Chicago, Illinois 60614
Type of School: Independent, co-educational, day, N-12.

School Enrollment: 750 (upper and lower school)
Enrollment in intensive learning programs: 240 (all of upper school)

Intensive program took effect 1975.

Schedule Description

Intensive classes are scheduled for 2 2/3 hours two times a week one week, and three times a week the next week for a 12-week period.

Intensive Programs Offered

Literature	✓	Community Study	✓
Foreign Languages		Off-campus Internship	
Science	✓	Independent Study	✓
Math		Career Exploration	✓
History (Social Sciences)		Art and Music	✓

Comments

This progressive independent school instituted its partial intensive program for a variety of reasons:

1) to offer courses that could attract students from different grade levels, breaking down the isolation of students within their own grade grouping
2) to use the resources of the city more effectively
3) to combat "senior slump"
4) to explore how children learn and how the teaching techniques in the classroom could be varied to respond more directly to student needs.

The administration of the school is interested in a comparison of the teaching/learning modes that characterize elementary and secondary education. Unself-consciously, elementary education is basically intensive, while at the secondary level the same approach is perceived as a radical innovation.

POUGHKEEPSIE DAY SCHOOL

John Zilliax, Director

39 New Hackensack Road
Poughkeepsie, New York 12603
Type of School: Independent, co-educational, day, K-12.

School Enrollment: 160 (upper and lower school)
Enrollment in intensive learning programs: 60 (entire upper school)

Intensive program took effect 1973.

Schedule Description

For 1½ days a week throughout the year, students are engaged in an intensive Central Studies Program. These are broad interdisciplinary topics, with student work done both in small groups and in independent study. There is also a two-week field trip arranged in conjunction with the Central Studies Program.

Intensive Programs Offered

Literature	✓	Community Study	✓
Foreign Languages		Off-campus Internship	✓
Science	✓	Independent Study	✓
Math	✓	Career Exploration	
History (Social Sciences)		Art and Music	✓

Comments

The Central Studies Program at Poughkeepsie Day School grew out of the school's desire to promote inquiry rather than to cover a particular body of knowledge. The school approves of the tendency under the intensive plan of more *doing* and less *talking about*. The school encourages students "to develop at their own rate, free from the stereotyping and competitiveness of single-age or ability-level groups."

Central Study has been done in American Myths and Cycles (grades 7-9) and in Change: Evolution, Revolution and Metamorphosis (grades 10-12).

"The Open Inquiry (Central Study) done in spring 1975 set off on the designated theme, 'Past, Present, Future Perspective,' by exploring old and new cartoons, etymology, history of science, and science fiction, in large and small groups, using a variety of media. After four weeks, seven small groups began to develop their independent work. One such group worked on architecture in the 20th century. Their results were presented in several media: drawings, writings, photographs, blueprints and a 4 x 8 model of a city. Their work took them into such questions as scale, population density, and allocation of space."

THE PURNELL SCHOOL

James H. Carney, Headmaster
Ward Johnson, Assistant Headmaster

Pottersville, New Jersey 07979
Type of School: Independent, girls, boarding, 10-12.
School Enrollment: 92

Enrollment in intensive learning programs: 50-55
Intensive program took effect 1972.

Schedule Description

The school sets aside a four-week period, during which concurrent classes are discontinued and an intensive foreign language program is implemented.

Intensive Programs Offered

Literature		Community Study	
Foreign Languages	✓	Off-campus Internship	
Science		Independent Study	✓
Math		Career Exploration	
History (Social Sciences)		Art and Music	

Comments

Purnell's intensive language study was instituted in order to afford a concentrated time block for the learning/speaking/ listening of foreign languages. For advanced students, overseas study trips are arranged during the intensive block.

The foreign language faculty are recruited specifically for this intensive period.

The school has seen an increase in student enthusiasm for this change in teaching mode and learning pace. There is concern about the maintenance of foreign language skills in the interim between intensive programs.

ST. ANNE'S – BELFIELD, INC.

Katherine W. Butterfield, Coordinator of 3/3 Program

A. Hamilton Bishop, III, Headmaster

2132 Ivy Road
Charlottesville, Virginia 22901
Type of School: Independent, co-educational, day, K-12.

School Enrollment: 218
Enrollment in intensive learning programs: 218
Intensive program took effect 1974.

Schedule Description

The program lasts for three weeks, after the second trimester. Morning courses ("academically oriented") meet Monday through Friday for three hours. Afternoon courses ("skill, craft, etc.") meet Monday through Thursday for two hours. A few courses have both a morning and an afternoon session.

Intensive Programs Offered

Literature	✓	Community Study	✓
Foreign Languages	✓	Off-campus Internship	
Science	✓	Independent Study	✓
Math	✓	Career Exploration	✓
History (Social Sciences)	✓	Art and Music	

Intensive offerings vary from year to year.

Comments

The noncredit intensive offerings were instituted to broaden the curriculum; to allow students to learn without pressures of keeping up with four to five courses; to try new teaching methods; to engender a new approach and enthusiasm toward learning. Since the period, in effect, offers extracurricular material, there is a concern about where the regular curriculum can be compressed or eliminated.

ST. CROIX COUNTRY DAY SCHOOL

William F. de Coligny, Headmaster

Star Route 00864
Christiansted, St. Croix USVI 00820
Type of School: Independent, co-educational, day, N-12.

School Enrollment: 472 (upper and lower school)
Enrollment in intensive learning programs: 230 (entire upper school)
Intensive program took effect February, 1974.

Schedule Description

The St. Croix Country Day School utilizes an academic year comprised of seven "Gusto" periods of 22 school days each, plus one Mini-Gusto of five to eight school days. During the Gusto periods students take combinations of 40-, 80-, and 120-minute periods. Only one course is taken full-time during the Mini-Gusto.

Intensive Programs Offered

Literature	✓	Community Study	✓
Foreign Languages	✓	Off-campus Internship	
Science	✓	Independent Study	
Math	✓	Career Exploration	✓
History (Social Sciences)	✓	Art and Music	

Comments

The first year and a half of the Gusto has been an intensive experience for the school. The faculty have been overextended and have been faced with having to learn and adopt new teaching skills and techniques. In attempting to come to grips with the new format, substantive educational issues are being raised at the school, and questions of the role of the school in the community are being examined.

ST. SCHOLASTICA ACADEMY

Sister Karen Bland, Principal

615 Pike
Cañon City, Colorado 81212
Type of School: Catholic, girls, boarding and day, 7-12.
School Enrollment: 120

Enrollment in intensive learning programs: 120
Intensive program took effect 1975.

Schedule Description

Academic intensive courses meet five hours a day for 15 days. On the fifteenth day final exams are given and the students present a program. Adjunct courses meet one hour daily for 15 days. Off-campus trips for academic courses are arranged by the teacher, and are often ten or more hours including travel time. The school year is comprised of 11 of these 15-day modules.

Intensive Programs Offered

Literature	✓	Community Study	
Foreign Languages	✓	Off-campus Internship	✓
Science	✓	Independent Study	
Math	✓	Career Exploration	
History (Social Sciences)	✓	Art and Music	✓
Religious Studies	✓		

Comments

The intensive program of St. Scholastica was an outgrowth of an intensive language institute sponsored by the Academy in September, 1974. This institute prompted the faculty to re-examine what they were about as professional educators, and what they wanted to see happen at the academy. The discussions led the faculty to adopt these goals:

1. to achieve a closer unity between student and faculty
2. to experience learning as pleasurable
3. to assist the average or below-average student
4. to facilitate the growth of both faculty and student.

The academy feels the new program has been particularly successful with students, citing increased attendance and enthusiasm, improved grades and achievement. The main disadvantage is the increased burden on the teachers, particularly those new to the academy.

ST. XAVIER ACADEMY

Sister Marie Andre, RSM, Principal

60 Broad Street
Providence, Rhode Island 02903
Type of School: Catholic, girls, day, 9-12.

School Enrollment: 595
Enrollment in intensive learning programs: 595
Intensive program took effect 1972.

Schedule Description

The school year is divided into five time blocks of approximately 36 days' duration. Students take one subject in a time block, all day, until they complete a year's work in the subject. Work in all subjects is individualized. As soon as a student completes one subject she moves on to the next one.

Intensive Programs Offered

Literature	✓	Community Study	
Foreign Languages	✓	Off-campus Internship	
Science	✓	Independent Study	
Math	✓	Career Exploration	✓
History (Social Sciences)		Art and Music	✓
Religion	✓	Business	✓

Comments

The individualized intensive learning program at St. Xavier was instituted because student enrollment was lagging and those students enrolled showed an indifference to the traditional program.

The academy has tried to work hard on teacher orientation and preparation, utilizing the resources of a number of local colleges. For two years, however, faculty turnover was high. In the third year, there was more stability among the faculty and a higher rate of satisfaction.

One result of the new program has been a greater sharing of administrative responsibilities among the faculty.

SOUTH CATHOLIC HIGH SCHOOL

Rev. Zigford Kriss, Principal

215 South Street
Hartford, Connecticut 06114
Type of School: Catholic, co-educational, day, 9-12.

School Enrollment: 1120
Enrollment in intensive learning programs: 223
Intensive program took effect 1975.

Schedule Description

The school year at South Catholic High School is divided into two semesters. A group of student volunteers participate in the intensive program in which two courses are taken each semester – one for two hours in the morning, the other for two hours in the afternoon. The Intensive Program is called Concentration On Learning and Teaching (COLT).

Intensive Programs Offered

Literature	✓	Community Study	
Foreign Languages	✓	Off-campus Internship	
Science	✓	Independent Study	
Math	✓	Career Exploration	
History (Social Sciences)	✓	Art and Music	

Comments

The school's eventual aim is to teach all courses to all students intensively. The courses are being phased in over a two-year period – with Math, English, Science, and Social Studies in 1975-76; and Latin, French, and Spanish in 1976-77. A growing number of students are electing the intensive option. The school is working into the intensive format gradually, in order to insure that the faculty is properly trained and the student population is ready.

The school sees the role of the teacher assuming greater dignity and professionalism under the intensive format, with greater opportunity to guide, direct, and counsel, as well as instruct. The program affords an opportunity to the teacher to mature and relate to students in many educational modes.

TATNALL SCHOOL

W. Rodman Snelling, Headmaster

1501 Barley Mill Road
Wilmington, Delaware 19807
Type of School: Independent, co-educational, day, N-12.

School Enrollment: 640 (upper and lower schools)
Enrollment in intensive learning programs: 30 of 240 in upper school
Intensive program took effect 1972.

Schedule Description

Students at Tatnall can take intensive courses as part of the school's NOVA Program. NOVA is a way of ordering the school day and year so that courses can be offered in a conventional 40-minute block of time; or in blocks of one hour and 20 minutes or two hours; or in full-time intensive study during each of nine 22-day NOVAS and two eight-day mini-NOVAS.

Intensive Programs Offered

Literature	✓	Community Study	✓
Foreign Languages	✓	Off-campus Internship	✓
Science	✓	Independent Study	✓
Math	✓	Career Exploration	✓
History (Social Sciences)		Art and Music	✓

Comments

Tatnall originally adopted the NOVA concept as a way of increasing efficiency, of cutting costs without decreasing the educational program. Approximately 13 percent of the Tatnall Upper School is enrolled in intensive courses during any given period.

Introduction of the intensive option has greatly increased the number of students who can experience some sort of off-campus learning situation.

THE URBAN SCHOOL

Robert D. Wilder, Headmaster

2938 Washington
San Francisco, California 94115
Type of School: Private high school, co-educational, day, 8-12.

School Enrollment: 140
Enrollment in intensive learning programs: 140
Intensive program took effect 1972.

Schedule Description

The school year is divided into six blocks of six weeks each. During each block a student takes one course for 2½ hours in the morning, and a second course for 2½ hours in the afternoon.

Intensive Programs Offered

Literature	✓	Community Study	✓
Foreign Languages	✓	Off-campus Internship	✓
Science	✓	Independent Study	✓
Math	✓	Career Exploration	✓
History (Social Sciences)	✓	Art and Music	✓
		Extracurricular Activities	✓

Comments

In adopting the intensive format, the school feels it is responding to a student desire for more depth in each field, fewer different daily homework demands, and more flexibility in their overall program. In addition, there is increased opportunity to use the educational resources of San Francisco.

The school has become more enthusiastic about the intensive system as it has become more efficient and adept at using it. Despite the increased demands on faculty, turnover is low, as teachers enjoy the stimulating, challenging, and focused nature of the new format.

WALDORF SCHOOL OF ADELPHI UNIVERSITY

David A. Barten, Chairman of the Faculty

Cambridge Avenue
Garden City, New York 11530
Type of School: Independent, co-educational, day, N-12.

School Enrollment: 308
Enrollment in intensive learning programs: 308
Intensive program took effect 1950.

Schedule Description

The school year is divided into 12 three-week blocks, during which one subject is taught in 1½ hour "mainlessons."

Intensive Programs Offered

Literature	✓	Community Study	
Foreign Languages		Off-campus Internship	
Science	✓	Independent Study	
Math	✓	Vocational Study	
History (Social Sciences)	✓	Art and Music	✓

Comments

The Waldorf Schools are a world-wide group of institutions that follow the philosophy of Rudolph Steiner. Steiner's suggestions for using time include the tri-partite "mainlesson," meaning three different approaches to the same subject in the 1½ hour time block. "Subjects like language, grammar and daily math require on-going drill which is not characteristic of the subjects taught in the 'mainlesson' blocks." The advantage of the "mainlesson" is that "students *really* learn and can develop a theme more fully and intensively." In addition, the schedule "demands skills, imagination and effort from the teacher."